Baskar
09/701711

FILE 'HCAPLUS' ENTERED AT 10:59:24 ON 06 SEP 2002)
L1 1383 SEA FILE=HCAPLUS ABB=ON PLU=ON (MORAXELL? OR B OR M OR BRANHAMELL?)(W)CATARRH?
L2 66 SEA FILE=HCAPLUS ABB=ON PLU=ON L1(10A)ANTIGEN
L3 35 SEA FILE=HCAPLUS ABB=ON PLU=ON L2(10A)(VACCIN? OR IMMUNIS? OR IMMUNIZ? OR ADJUVANT)
L4 22 SEA FILE=HCAPLUS ABB=ON PLU=ON L3(10A)(POLYPROTEIN OR POLYPEPTIDE OR PEPTIDE OR PROTEIN)

-key terms

L4 ANSWER 1 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:255245 HCAPLUS
DOCUMENT NUMBER: 134:265146
TITLE: Cloning and characterization of outer membrane protein OMP106 gene of Moraxella catarrhalis and its prophylactic, diagnostic and therapeutic uses
INVENTOR(S): Tucker, Kenneth; Plosila, Laura; Tillman, Ulrich F.
PATENT ASSIGNEE(S): Antex Biologics Inc., USA
SOURCE: U.S., 49 pp., Cont.-in-part of U.S. Ser. No. 642,712.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6214981	B1	20010410	US 1997-968685	19971112
CN 1223549	A	19990721	CN 1997-195990	19970428
ZA 9703809	A	19971201	ZA 1997-3809	19970502
KR 2000010734	A	20000225	KR 1998-708845	19981103

PRIORITY APPLN. INFO.: US 1996-642712 A2 19960503
AB The invention discloses the Moraxella catarrhalis outer membrane protein-106 (OMP106) polypeptide, polypeptides derived therefrom (OMP106-derived polypeptides), nucleotide sequences encoding these polypeptides, and antibodies that specifically bind the OMP106 polypeptide and/or OMP106-derived polypeptides. Also disclosed are immunogenic, prophylactic or therapeutic compns., including vaccines, comprising OMP106 polypeptide and/or OMP106-derived polypeptides. The invention addnl. discloses methods of inducing immune responses to M. catarrhalis and M. catarrhalis OMP106 polypeptides and OMP106-derived polypeptides in animals.
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:78537 HCAPLUS
DOCUMENT NUMBER: 134:144470
TITLE: A high molecular weight major outer membrane protein of Moraxella and the gene encoding it and the diagnosis, prophylaxis and treatment of infection
INVENTOR(S): Loosmore, Sheena M.; Sasaki, Ken; Yang, Yan-Ping; Klein, Michel H.
PATENT ASSIGNEE(S): Connaught Laboratories Limited, Can.

SOURCE: PCT Int. Appl., 247 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001007619	A1	20010201	WO 2000-CA870	20000726
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1203082	A1	20020508	EP 2000-951136	20000726
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.: US 1999-361619 A2 19990727
WO 2000-CA870 W 20000726

AB An isolated and purified outer membrane protein of a Moraxella strain, particularly M. catarrhalis, having a mol. mass of about 200 kDa, is provided by recombinant means. The about 200 kDa outer membrane protein as well as nucleic acid mols. encoding the same are useful in diagnostic applications and immunogenic compns., particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the about 200 kDa outer membrane protein or produces a protein capable of inducing antibodies in a host specifically reactive with the about 200 kDa outer membrane protein. N-terminally and C-terminally truncated about 200 kDa proteins also are produced recombinantly. The gene was cloned from the 4223 strain by screening an expression library in .lambda.EMBL3 with antiserum to the protein. A series of overlapping fragments were obtained and assembled to give the full-length gene. The gene was then used as a probe to obtain the gene from a no. of different strains of the bacterium. Protein manufd. in Escherichia coli was obtained as inclusion bodies that could be resolubilized and used raise antiserum in mice and guinea pigs. The antiserum was bactericidal and could block the binding of the bacterium to animal cells. Comparison of the sequences of the G tract of genes from strains with different clumping activity indicated that the no. of G's in the tract affected levels of gene expression. Prepn. and characterization of N- and C-terminal truncation derivs. is described.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:628168 HCAPLUS
DOCUMENT NUMBER: 133:221588
TITLE: Immunogenic compounds

INVENTOR(S): Ruelle, Jean-louis
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 97 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000052042	A1	20000908	WO 2000-EP1468	20000223
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1163265	A1	20011219	EP 2000-907603	20000223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: GB 1999-4559 A 19990226
WO 2000-EP1468 W 20000223

AB The invention provides BASB081 polypeptides from Moraxella catarrhalis and polynucleotides encoding BASB081 polypeptides and methods for producing such polypeptides by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:227773 HCAPLUS
DOCUMENT NUMBER: 132:250005
TITLE: Antigenic outer membrane protein OMP21 of Moraxella catarrhalis and the gene encoding it and their prophylactic, diagnostic and therapeutic uses
INVENTOR(S): Tucker, Kenneth; Tillmann, Ulrich F.
PATENT ASSIGNEE(S): Antex Biologics Inc., USA
SOURCE: PCT Int. Appl., 109 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000018910	A1	20000406	WO 1999-US22918	19991001
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW,				

AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9964100	A1	20000417	AU 1999-64100	19991001
EP 1117779	A1	20010725	EP 1999-951716	19991001
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002525110	T2	20020813	JP 2000-572357	19991001
PRIORITY APPLN. INFO.:			US 1998-164714 A	19981001
			WO 1999-US22918 W	19991001

AB The invention discloses the Moraxella catarrhalis outer membrane protein polypeptide and polypeptides derived therefrom (collectively "OMP21"), nucleotide sequences encoding said OMP21, and antibodies that specifically bind OMP21. Also disclosed are pharmaceutical compns. including prophylactic or therapeutic compns., which may be immunogenic compns. including vaccines, comprising OMP21, antibodies thereto or nucleotides encoding same. The invention addnl. discloses methods of inducing an immune response to M. catarrhalis and OMP21 in an animal, preferably a human, methods of treating and methods of diagnosing Moraxella infections in an animal, preferably a human, and kits therefor. The outer membrane proteins of several strains of M. catarrhalis were extd. with non-denaturing detergents (octyl glucoside or EmpigenBB.RTM.) and fractionated on SDS-polyacrylamide gels followed by transfer to PVDF membranes for N-terminal sequencing. The protein was antigenic in rabbits and conserved between strains of M. catarrhalis and related bacteria. Antisera to the protein mediated complement killing of M. catarrhalis. The gene, omp21, was cloned by PCR with degenerate primers and a knockout mutation created. The knockout strain showed weaker binding to cultured nasopharyngeal cells than did the wild type.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 22 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER:	2000:191223 HCAPLUS
DOCUMENT NUMBER:	132:233331
TITLE:	Moraxella catarrhalis basb034 polypeptides and utility in vaccine development and diagnosis
INVENTOR(S):	Ruelle, Jean-louis
PATENT ASSIGNEE(S):	Smithkline Beecham Biologicals S.A., Belg.
SOURCE:	PCT Int. Appl., 106 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000015802	A1	20000323	WO 1999-EP6781	19990914
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU,				

ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9958632	A1	20000403	AU 1999-58632	19990914	
BR 9914492	A	20010626	BR 1999-14492	19990914	
EP 1114160	A1	20010711	EP 1999-946171	19990914	
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO					
JP 2002525057	T2	20020813	JP 2000-570329	19990914	
NO 2001001263	A	20010430	NO 2001-1263	20010313	

PRIORITY APPLN. INFO.: GB 1998-20002 A 19980914
WO 1999-EP6781 W 19990914

AB The invention provides BASB034 polypeptides and polynucleotides encoding BASB034 polypeptides and methods for producing such polypeptides by recombinant techniques. It is not uncommon to isolate Moraxella catarrhalis strains that are resistant to some or all of the std. antibiotics. The gene BASB034 was isolate from Moraxella catarrhalis strain ATCC43617 and other strains. The non-coding flanking regions of the BASB034 gene were analyzed and exploited for modulation of BASB034 gene expression. Rflp patterns within this gene were found with the following restriction endonucleases: HphI, AluI, RsaI, EcoRV, and Sau3A1. A vaccine is described comprising the gene BASB034 protein and at least one other Moraxella catarrhalis antigen. This may be used to generate an immune response. Antibodies specific for this antigen are discussed in the light of Moraxella catarrhalis infection detection and treatment and diagnosis. Also provided are diagnostic, prophylactic and therapeutic uses.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:795970 HCAPLUS
DOCUMENT NUMBER: 132:20305
TITLE: Protein BASB021 and its encoding polynucleotides from Moraxella catarrhalis strains and use for diagnosis of and vaccine against otitis media
INVENTOR(S): Thonnard, Joelle
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 88 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9964602	A2	19991216	WO 1999-EP3824	19990531
WO 9964602	A3	20000203		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9945050	A1	19991230	AU 1999-45050	19990531
EP 1086229	A2	20010328	EP 1999-927846	19990531

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

PRIORITY APPLN. INFO.:	GB 1998-12440	A	19980609
	WO 1999-EP3824	W	19990531

AB Claimed are BASB021 polypeptides and polynucleotides encoding BASB021 polypeptides from Moraxella catarrhalis (also known as Branhamella catarrhalis) strains, methods for producing such polypeptides by recombinant techniques, and methods for their use in diagnostics for detecting infection by certain pathogens, specifically otitis media, and as vaccines against bacterial infection.

L4 ANSWER 7 OF 22 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER:	1999:736939 HCAPLUS
DOCUMENT NUMBER:	131:348195
TITLE:	Protein BASB020 and its encoding polynucleotides from Moraxella catarrhalis strains and use for diagnosis of and vaccine against otitis media
INVENTOR(S):	Thonnard, Joelle
PATENT ASSIGNEE(S):	Smithkline Beecham Biologicals S.A., Belg.
SOURCE:	PCT Int. Appl., 113 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9958684	A2	19991118	WO 1999-EP3257	19990507
WO 9958684	A3	20000224		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2328502	AA	19991118	CA 1999-2328502	19990507
AU 9941421	A1	19991129	AU 1999-41421	19990507
AU 737196	B2	20010809		
EP 1078064	A2	20010228	EP 1999-924948	19990507

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI

BR 9911773	A	20020305	BR 1999-11773	19990507
JP 2002514425	T2	20020521	JP 2000-548475	19990507
NO 2000005697	A	20010110	NO 2000-5697	20001110
PRIORITY APPLN. INFO.:			GB 1998-10285 A	19980513
			WO 1999-EP3257 W	19990507

AB Claimed are BASB020 polypeptides and polynucleotides encoding BASB020 polypeptides from Moraxella catarrhalis (also known as

Branhamella catarrhalis) strains, methods for producing such polypeptides by recombinant techniques, and methods for their use in diagnostics for detecting infection by certain pathogens, specifically otitis media, and as vaccines against bacterial infection.

L4 ANSWER 8 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:736935 HCAPLUS
DOCUMENT NUMBER: 131:348194
TITLE: Protein BASB010 and its encoding polynucleotides from Moraxella catarrhalis strains and use for diagnosis of and vaccine against otitis media
INVENTOR(S): Thonnard, Joelle
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 100 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9958682	A2	19991118	WO 1999-EP3254	19990507
WO 9958682	A3	20000127		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2328141	AA	19991118	CA 1999-2328141	19990507
AU 9942600	A1	19991129	AU 1999-42600	19990507
EP 1078065	A2	20010228	EP 1999-950353	19990507
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: GB 1998-10195 A 19980512
GB 1999-5308 A 19990308
WO 1999-EP3254 W 19990507

AB Claimed are BASB010 polypeptides and polynucleotides encoding BASB010 polypeptides from Moraxella catarrhalis (also known as Branhamella catarrhalis) strains, methods for producing such polypeptides by recombinant techniques, and methods for their use in diagnostics for detecting infection by certain pathogens, specifically otitis media, and as vaccines against bacterial infection.

L4 ANSWER 9 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:736756 HCAPLUS
DOCUMENT NUMBER: 131:350252
TITLE: Moraxella catarrhalis antigenic proteins and their use for immunization
INVENTOR(S): Cripps, Allan William; Kyd, Jennelle
PATENT ASSIGNEE(S): Cortecs (UK) Limited, UK
SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9958563	A2	19991118	WO 1999-GB1473	19990511
WO 9958563	A3	19991229		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2328130	AA	19991118	CA 1999-2328130	19990511
AU 9938383	A1	19991129	AU 1999-38383	19990511
EP 1077999	A2	20010228	EP 1999-921008	19990511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002514657	T2	20020521	JP 2000-548365	19990511
NO 2000005670	A	20010110	NO 2000-5670	20001110

PRIORITY APPLN. INFO.: GB 1998-10084 A 19980511
WO 1999-GB1473 W 19990511

AB Novel antigens of Branhamella catarrhalis (also known as Moraxella catarrhalis) are provided, together with their use in vaccines as well as methods of diagnosis and/or detection. N-terminal and internal peptide sequences are provided for antigenic proteins of mol. mass 20, 30, 35, 44, and 71 kDa.

L4 ANSWER 10 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:736754 HCAPLUS
DOCUMENT NUMBER: 131:348191
TITLE: Protein BASB009 and its encoding polynucleotides from Moraxella catarrhalis strains and use for diagnosis of and vaccine against otitis media
INVENTOR(S): Thonnard, Joelle
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 99 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9958562	A2	19991118	WO 1999-EP3262	19990510
WO 9958562	A3	20010517		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW,				

AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2328061	AA	19991118	CA 1999-2328061	19990510
AU 9942601	A1	19991129	AU 1999-42601	19990510
EP 1086127	A1	20010328	EP 1999-950345	19990510

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI

PRIORITY APPLN. INFO.: GB 1998-10193 A 19980512
WO 1999-EP3262 W 19990510

AB Claimed are BASB009 polypeptides and polynucleotides encoding BASB009 polypeptides from Moraxella catarrhalis (also known as Branhamella catarrhalis) strains, methods for producing such polypeptides by recombinant techniques, and methods for their use in diagnostics for detecting infection by certain pathogens, specifically otitis media, and as vaccines against bacterial infection.

L4 ANSWER 11 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:723176 HCAPLUS
DOCUMENT NUMBER: 131:347525
TITLE: Moraxella catarrhalis Basb019 proteins and genes from Moraxella catarrhalis and antigens and antibodies and therapeutic applications
INVENTOR(S): Ruelle, Jean-Louis
PATENT ASSIGNEE(S): SmithKline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 101 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9957277	A2	19991111	WO 1999-EP3038	19990503
WO 9957277	A3	20000203		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2327316	AA	19991111	CA 1999-2327316	19990503
AU 9939315	A1	19991123	AU 1999-39315	19990503
EP 1075521	A2	20010214	EP 1999-922171	19990503

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

PRIORITY APPLN. INFO.: GB 1998-9683 A 19980506
WO 1999-EP3038 W 19990503

AB The invention provides Moraxella catarrhalis strain ATCC43617 gene BASB019 polypeptides and polynucleotides encoding BASB019 polypeptides and methods for producing such polypeptides by recombinant techniques. Variability within the BASB019 gene among

several Moraxella catarrhalis strains was shown by RFLP anal. Also provided are diagnostic, prophylactic and therapeutic uses including prodn. of antisera to recombinant BASB019 and vaccine prodn. and immunizations. A treatment of humans for Moraxella catarrhalis disease using antibody directed against Basb019 proteins is described. Lastly, screening assays for antagonists and agonists for BASB019 are described.

L4 ANSWER 12 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:708913 HCAPLUS
DOCUMENT NUMBER: 131:333042
TITLE: Protein and DNA sequences of Moraxella catarrhalis BASB011 gene, and uses thereof in vaccine compositions and in assays for the diagnosis of bacterial infections
INVENTOR(S): Ruelle, Jean-louis
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9955871	A1	19991104	WO 1999-EP2764	19990420
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2326820	AA	19991104	CA 1999-2326820	19990420
AU 9940331	A1	19991116	AU 1999-40331	19990420
EP 1071784	A1	20010131	EP 1999-923457	19990420
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: GB 1998-8720 A 19980423
WO 1999-EP2764 W 19990420

AB This invention provides the sequence of the Moraxella catarrhalis BASB011 gene, which encodes a protein that has homol. to the HtrA serine protease of Helicobacter pylori. The invention also relates to the use of an immunogenic fragment, preferably the extracellular domain, of the provided protein in a vaccine. The invention further relates to the use of the provided protein and/or gene in the diagnosis of bacterial infections, esp. those of Moraxella.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:571730 HCAPLUS
DOCUMENT NUMBER: 131:213099
TITLE: Vaccine for Moraxella catarrhalis

INVENTOR(S): Murphy, Timothy F.
PATENT ASSIGNEE(S): The Research Foundation of State University of New York, USA
SOURCE: U.S., 20 pp., Cont.-in-part of U.S. 5,607,846. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5948412	A	19990907	US 1997-810655	19970303
US 5607846	A	19970304	US 1994-245758	19940517
CA 2189971	AA	19951123	CA 1995-2189971	19950420

PRIORITY APPLN. INFO.: US 1994-245758 19940517

AB Compns. comprising outer membrane protein E, and peptides and oligopeptides thereof, of Moraxella catarrhalis are described. Addnl., nucleotide sequences encoding the protein, peptide, or oligopeptide are disclosed, as well as recombinant vectors contg. these sequences. Protein, peptide, or oligopeptide can be produced from host cell systems contg. these recombinant vectors. Peptides and oligopeptides can also be chem. synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens in antigenic formulations for vaccine applications or for generating antisera of diagnostic or therapeutic use; and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertions into attenuated bacteria in constructing a recombinant bacterial vaccine and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding E as primers and/or probes in mol. diagnostic assays for the detection of M. catarrhalis.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:554570 HCAPLUS
DOCUMENT NUMBER: 131:285063
TITLE: Analysis of antigenic structure and human immune response to outer membrane protein CD of Moraxella catarrhalis
AUTHOR(S): Murphy, Timothy F.; Kirkham, Charmaine; DeNardin, Ernesto; Sethi, Sanjay
CORPORATE SOURCE: Divisions of Infectious Diseases, Department of Microbiology, State University of New York at Buffalo, Buffalo, NY, 14215, USA
SOURCE: Infection and Immunity (1999), 67(9), 4578-4585 CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Moraxella catarrhalis is an important cause of otitis media in children and lower respiratory tract infections in adults with chronic obstructive pulmonary disease (COPD). Outer membrane protein CD (OMP CD) is a 45-kDa **protein** which is a potential **vaccine antigen** to prevent infections

caused by **M. catarrhalis**. Eight monoclonal antibodies were used to study the antigenic structure of the OMP CD mol. by assaying recombinant peptides corresponding to the sequence of the protein. This approach identified two surface-exposed epitopes, including one near the amino terminus (amino acids 25 to 44) and one in the central region of the mol. (amino acids 261 to 331). Assays with serum and sputum supernatants of adults with COPD revealed variable levels of antibodies to OMP CD among individuals. To det. which portions of the OMP CD mol. were recognized by human antibodies, three human serum samples were studied with six recombinant peptides which span the sequence of OMP CD. All three sera contained IgG antibodies which recognized exclusively the peptide corresponding to amino acids 203 to 260 by immunoblot assay. Adsorption expts. with whole bacteria established that some of the human antibodies are directed at surface-exposed epitopes on OMP CD. The authors conclude that OMP CD is a highly conserved mol. which contains at least two sep. epitopes which are exposed on the bacterial surface. While individual adults with COPD show variability in the immune response to OMP CD, a specific region of the OMP CD mol. (amino acids 203 to 260) is important as a target of the human immune response.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:574816 HCAPLUS
DOCUMENT NUMBER: 129:313152
TITLE: The transferrin binding **protein** B of **Moraxella catarrhalis** elicits bactericidal antibodies and is a potential **vaccine antigen**
AUTHOR(S): Myers, Lisa E.; Yang, Yan-Ping; Du, Run-Pan; Wang, Qijun; Harkness, Robin E.; Schryvers, Anthony B.; Klein, Michel H.; Loosmore, Sheena M.
CORPORATE SOURCE: Pasteur Merieux Connaught Canada Research, North York, ON, M2R 3T4, Can.
SOURCE: Infection and Immunity (1998), 66(9), 4183-4192
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The transferrin binding protein genes (tbpA and tbpB) from two strains of Moraxella catarrhalis have been cloned and sequenced. The genomic organization of the M. catarrhalis transferrin binding protein genes is unique among known bacteria in that tbpA precedes tbpB and there is a third gene located between them. The deduced sequences of the M. catarrhalis TbpA proteins from two strains were 98% identical, while those of the TbpB proteins from the same strains were 63% identical and 70% similar. The third gene, tentatively called orf3, encodes a protein of approx. 58 kDa that is 98% identical between the two strains. The tbpB genes from four addnl. strains of M. catarrhalis were cloned and sequenced, and two potential families of TbpB proteins were identified based on sequence similarities. Recombinant TbpA (rTbpA), rTbpB, and rORF3 proteins were expressed in Escherichia coli and purified. RTbpB was shown to retain its ability to bind human transferrin after transfer

to a membrane, but neither rTbpA nor rORF3 did. Monospecific anti-rTbpA and anti-rTbpB antibodies were generated and used for immunoblot anal., which demonstrated that epitopes of M. catarrhalis TbpA and TbpB were antigenically conserved and that there was constitutive expression of the tbp genes. In the absence of an appropriate animal model, anti-rTbpA and anti-rTbpB antibodies were tested for their bactericidal activities. The anti-rTbpA antiserum was not bactericidal, but anti-rTbpB antisera were found to kill heterologous strains within the same family. Thus, if bactericidal ability is clin. relevant, a vaccine comprising multiple rTbpB antigens may protect against M. catarrhalis disease.

L4 ANSWER 16 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:543086 HCAPLUS
DOCUMENT NUMBER: 129:174683
TITLE: The 74 kilodalton outer membrane protein from Moraxella catarrhalis
INVENTOR(S): Chen, Dexiang; Vandermeid, Karl R.; Mcmichael, John C.; Barniak, Vicki L.
PATENT ASSIGNEE(S): American Cyanamid Company, USA
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9833814	A1	19980806	WO 1998-US1840	19980129
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9861393	A1	19980825	AU 1998-61393	19980129
AU 747479	B2	20020516		
EP 1005487	A1	20000607	EP 1998-906065	19980129
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1997-36827P P 19970131
WO 1998-US1840 W 19980129

AB A protein from the M. catarrhalis designated the 74 kD protein is isolated and purified. The 74 kD protein has an amino-terminal amino acid sequence which is conserved among various strains of M. catarrhalis. The protein has a mol. wt. of approx. 74.9 kD as measured on a 10% SDS-PAGE gel, while its mol. wt. as measured by mass spectrometry is approx. 74 kD. The 74 kD protein is used to prep. a vaccine compn. which elicits a protective immune response in a mammalian host to protect the host again disease caused by M. catarrhalis.

L4 ANSWER 17 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:126360 HCAPLUS

DOCUMENT NUMBER: 128:191579
TITLE: Epitopes of outer membrane protein copB of Moraxella catarrhalis and their use in vaccines and diagnosis of infection
INVENTOR(S): Hansen, Eric J.; Cope, Leslie D.; Aebi, Christoph
PATENT ASSIGNEE(S): Board of Regents, the University of Texas System, USA; Hansen, Eric J.; Cope, Leslie D.; Aebi, Christoph
SOURCE: PCT Int. Appl., 133 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806851	A2	19980219	WO 1997-US14221	19970812
WO 9806851	A3	19980507		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9741500	A1	19980306	AU 1997-41500	19970812
AU 740481	B2	20011108		
EP 920513	A2	19990609	EP 1997-939404	19970812
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1996-23832P P 19960812
WO 1997-US14221 W 19970812

AB The title epitopes of M. catarrhalis CopB as well as their uses in vaccination and diagnosis of M. catarrhalis infection are disclosed. Four CopB antigens were sequenced and their predicted amino acid sequences compared. Regions of conservation and non-conservation were identified, including one non-conserved region that represents an antibody binding region from the strain 035E. A single amino acid change (N to D) in this epitope, at residue 295, abolished reactivity of the antibody 10F3 with CopB. Peptides which only contain residues of this region that are C-terminal to residue 295 did retain reactivity but their reactivity was less than the maximal reactivity achieved in the presence of an asparagine at position 295.

L4 ANSWER 18 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:785201 HCAPLUS
DOCUMENT NUMBER: 128:72145
TITLE: Characterization of an outer membrane protein of Moraxella catarrhalis
AUTHOR(S): Mathers, Kate E.; Goldblatt, David; Aebi, Christoph; Yu, Rong-Hus; Schryvers, Anthony B.; Hansen, Eric J.
CORPORATE SOURCE: Immunobiology Unit, Institute Child Health,

London, WC1N 1EH, UK
SOURCE: FEMS Immunology and Medical Microbiology (1997), 19(3), 231-236
CODEN: FIMIEV; ISSN: 0928-8244
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To elucidate potential **vaccine antigens**, **Moraxella catarrhalis** outer membrane **proteins** (OMPs) were studied. We have previously shown an OMP to be a target for human IgG and have now further characterized this OMP which appears to have a mol. mass of 84 kDa and to be distinct from the 81-kDa OMP, CopB. Human transferrin was shown to bind the 84-kDa OMP alone. N-terminal sequencing of this OMP and purified M. catarrhalis transferrin-binding protein B (TbpB) revealed homol. both with each other and with the TbpB of Haemophilus influenzae and Neisseria meningitidis. Adsorption of human anti-serum with purified TbpB from two M. catarrhalis strains abolished or reduced binding of IgG to the 84-kDa OMP from three M. catarrhalis isolates. IgG binding to CopB was unaffected. It is clear that 84-kDa OMP is distinct from CopB and is a likely homolog of TbpB.

L4 ANSWER 19 OF 22 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1997:177696 HCAPLUS
DOCUMENT NUMBER: 126:249929

TITLE: The major outer membrane **protein**, CD, extracted from Moraxella (**Branhamella**) **catarrhalis** is a potential **vaccine antigen** that induces bactericidal antibodies

AUTHOR(S): Yang, Yan-ping; Myers, Lisa E.; McGuinness, Ursula; Chong, Pele; Kwok, Yan; Klein, Michel H.; Harkness, Robin E.
CORPORATE SOURCE: Research Center, Pasteur Merieux Connaught Canada, 1755 Steeles Ave. West, North York, ON, M2R 3T4, Can.

SOURCE: FEMS Immunology and Medical Microbiology (1997), 17(3), 187-199
CODEN: FIMIEV; ISSN: 0928-8244
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The major outer membrane protein of Moraxella (Branhamella) catarrhalis, CD, was detergent-extd. from the bacterial cell wall and purified to homogeneity in high yields by a simple process. The purified protein appeared to exhibit immunogenic properties similar to those of native CD exposed on the surface of the bacterium. Antibodies to CD raised in mice specifically bound to intact B. catarrhalis, as detd. by flow cytometry anal. The IgG subclass distributions of anti-CD antibodies in sera from mice immunized with purified CD or with B. catarrhalis were also similar. CD was found to be antigenically conserved among a panel of B. catarrhalis isolates, as demonstrated by the consistent reactivities of mouse anti-CD antisera with a common 60 kDa protein on immunoblots. Furthermore, convalescent sera collected from patients with otitis media due to B. catarrhalis infection were found to be reactive with the CD protein by immunoblotting. Finally, the purified protein

induced antibodies in guinea pigs and mice that exhibited in vitro bactericidal activity against the pathogen. Therefore, the native CD outer membrane **protein** represents a potentially useful **antigen** for inclusion in a **vaccine** against **B. catarrhalis**.

L4 ANSWER 20 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:135693 HCAPLUS
DOCUMENT NUMBER: 124:185521
TITLE: Vaccine for Moraxella catarrhalis
INVENTOR(S): Murphy, Timothy F.; Bhushan, Reva
PATENT ASSIGNEE(S): Research Foundation of State University of New York, USA
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9531215	A1	19951123	WO 1995-US5134	19950420
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MX, NO, NZ, PL, PT, RO, RU, SI, SK, TJ, TT, UA, UZ, VN				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5607846	A	19970304	US 1994-245758	19940517
CA 2189971	AA	19951123	CA 1995-2189971	19950420
AU 9523969	A1	19951205	AU 1995-23969	19950420
AU 709984	B2	19990909		
EP 759777	A1	19970305	EP 1995-917165	19950420
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
JP 10504444	T2	19980506	JP 1995-529666	19950420

PRIORITY APPLN. INFO.: US 1994-245758 19940517
WO 1995-US5134 19950420

AB Compns. comprising outer membrane protein E, and peptides and oligopeptides thereof, of Moraxella catarrhalis are described. Addnl., nucleotide sequences encoding the protein, peptide, or oligopeptide are disclosed, as well as recombinant vectors contg. these sequences. Protein, peptide, or oligopeptide can be produced from host cell systems contg. these recombinant vectors. Peptides and oligopeptides can also be chem. synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens for vaccine formulations, and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines, for insertions into attenuated bacteria in constructing a recombinant bacterial vaccine and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding E as primers and/or probes in mol. diagnostic assays for the detection of M. catarrhalis.

L4 ANSWER 21 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:680768 HCAPLUS

DOCUMENT NUMBER: 123:81585
TITLE: Branhamella catarrhalis outer membrane-associated protein CD gene and use for vaccine or immunoassay
INVENTOR(S): Murphy, Timothy F.
PATENT ASSIGNEE(S): Research Foundation of State University of New York, USA
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9509025	A1	19950406	WO 1994-US10932	19940927
W: AU, CA, FI, JP, NO, NZ, PL, RU, UA				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5556755	A	19960917	US 1993-129719	19930929
US 5712118	A	19980127	US 1994-306871	19940920
AU 9479593	A1	19950418	AU 1994-79593	19940927
AU 701340	B2	19990128		
EP 737085	A1	19961016	EP 1994-930490	19940927
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
JP 09503210	T2	19970331	JP 1994-510417	19940927
FI 9601407	A	19960521	FI 1996-1407	19960328

PRIORITY APPLN. INFO.: US 1993-129719 19930929
US 1994-306871 19940920
WO 1994-US10932 19940927

AB Compns. comprising outer membrane protein "CD", and peptides and oligopeptides thereof, of Branhamella catarrhalis are described. Addnl., nucleotide sequences encoding the protein, peptide or oligopeptide are disclosed, as well as recombinant vectors contg. these sequences. Protein, peptide or oligopeptide can be produced from host cell systems contg. these recombinant vectors. Peptides and oligopeptides can also be chem. synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens for vaccine formulations, and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertion into attenuated bacteria in constructing a recombinant bacterial vaccine, and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding CD as primers and/or probes in mol. diagnostic assays for the detection of B. catarrhalis.

L4 ANSWER 22 OF 22 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:189964 HCAPLUS
DOCUMENT NUMBER: 118:189964
TITLE: Methods and compositions relating to useful antigens of Moraxella catarrhalis
INVENTOR(S): Hansen, Eric J.; Helminen, Merja; Maciver, Isobel
PATENT ASSIGNEE(S): University of Texas System, USA
SOURCE: PCT Int. Appl., 73 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9303761	A1	19930304	WO 1992-US6869	19920814
W: AT, AU, BB, BG, BR, CA, CH, CS, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, PL, RO, RU, SD, SE, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG				
US 5552146	A	19960903	US 1991-745591	19910815
AU 9224878	A1	19930316	AU 1992-24878	19920814
AU 666329	B2	19960208		
EP 612250	A1	19940831	EP 1992-918273	19920814
EP 612250	B1	19960724		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, SE				
JP 07501210	T2	19950209	JP 1992-504481	19920814
AT 140627	E	19960815	AT 1992-918273	19920814
ES 2092696	T3	19961201	ES 1992-918273	19920814
US 5993826	A	19991130	US 1993-25363	19930302
NO 9400502	A	19940328	NO 1994-502	19940214
FI 9400681	A	19940407	FI 1994-681	19940214
US 5759813	A	19980602	US 1994-193150	19940919
US 5599693	A	19970204	US 1995-450002	19950525
US 5981213	A	19991109	US 1995-450351	19950525
NO 2000002413	A	20000509	NO 2000-2413	20000509

PRIORITY APPLN. INFO.: US 1991-745591 A2 19910815
WO 1992-US6869 A 19920814
US 1993-25363 A3 19930302

AB Selected antigenic proteins obtained from the outer membranes of M. catarrhalis are disclosed. These outer membrane proteins (OMPs) have mol. wts. of approx. 30 kDa, 80 kDa, and 200-700 kDa, resp. Studies demonstrated that monoclonal antibodies (MAbs) directed against these proteins confer a protective effect against infection by M. catarrhalis in animal models, demonstrating the potential usefulness of such antibodies in conferring passive immunity as well as the potential use of the OMPs (or variants thereof) in the prepn. of vaccines. DNA segments encoding the OMPs, methods for prepg. the antigens, and diagnostic methods are also disclosed. OMP isolation, anti-OMP MAb prodn., and cloning of genes for the OMPs are described.

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 11:06:32 ON 06 SEP 2002)
L5 36 S L4
L6 14 DUP REM L5 (22 DUPLICATES REMOVED)

L6 ANSWER 1 OF 14 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-352536 [38] WPIDS
DOC. NO. CPI: C2002-100176
TITLE: New Streptococcus protein for the treatment or prevention of infection or disease caused by Streptococcus bacteria, such as meningitis, and for detecting a compound that binds to the protein.
DERWENT CLASS: B04 C06 D16

INVENTOR(S): FRASER, C; GRANDI, G; MARGARIT Y ROS, I; MASIGNANI, V; TELFORD, J; TETTELIN, H
PATENT ASSIGNEE(S): (CHIR-N) CHIRON SPA; (GENO-N) INST GENOMIC RES
COUNTRY COUNT: 98
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002034771	A2	20020502	(200238)*	EN	

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002034771	A2	WO 2001-GB4789	20011029

PRIORITY APPLN. INFO: GB 2001-5640 20010307; GB 2000-26333 20001027; GB 2000-28727 20001124

AN 2002-352536 [38] WPIDS

AB WO 200234771 A UPAB: 20020618

NOVELTY - A protein (I) from group B streptococcus (Streptococcus agalactiae) or group A streptococcus (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a protein having 50 % or greater sequence identity to (I);

(2) a protein comprising a fragment of 7 or more consecutive amino acids from (S1);

(3) an antibody which binds (I);

(4) a nucleic acid encoding (I);

(5) a nucleic acid comprising one of 1057 sequences (S2), given in the specification;

(6) a nucleic acid comprising a fragment of 10 or more consecutive nucleotides from one of 6540 sequences (S3), given in the specification, which includes the sequences of (S2);

(7) a nucleic acid comprising a sequence complementary to one of (4) - (6);

(8) a nucleic acid comprising a sequence having 50 % or greater sequence identity to one of (4) - (7);

(9) a nucleic acid that can hybridize to (4) - (8), under high stringency conditions;

(10) a composition comprising (I), or one of (1) - (9);

(11) the use of (10) in the manufacture of a medicament for the treatment of prevention of infection or disease caused by streptococcus bacteria, particularly S. agalactiae and S. pyrogenes;

(12) treating a patient comprising administering (10);

(13) a hybrid protein of formula (F);

(14) a kit comprising primers for amplifying a template sequence contained within a Streptococcus nucleic acid sequence,

where the kit comprises one primer complementary to the template sequence and a second primer complementary to a complement of the template sequence, and the parts of the primers which have complementarity define the termini of the template sequence to be amplified;

(15) a kit comprising two single-stranded oligonucleotides which allow amplification of a Streptococcus template nucleic acid contained in a single- or double-stranded nucleic acid (or mixture of it) where:

(a) one oligonucleotide comprises a primer sequence complementary to the template nucleic acid sequence;

(b) the second oligonucleotide comprises a primer sequence complementary to the complement of the template nucleic acid sequence;

(c) either or both oligonucleotides comprise a sequence(s) not complementary to the template nucleic acid sequence; and

(d) the primer sequences define the termini of the template sequence to be amplified;

(16) a computer readable medium containing one of 12024 sequences (S4), given in the specification;

(17) detecting Streptococcus in a biological sample comprising contacting (4) - (9) with the sample under hybridizing conditions;

(18) determining whether a compound binds to (I), (1), or (2), comprising contacting a test compound with the protein and determining binding;

(19) a compound identified by (18);

(20) a composition comprising (1), (1), or (2) and one of:

(i) a protein antigen from Helicobacter pylori and/or Neisseria meningitidis serogroup B;

(ii) an outer-membrane vesicle (OMV) preparation from N. meningitidis serogroup B;

(iii) a saccharide antigen from N. meningitidis serogroup A, C, W135 and/or Y, or Streptococcus pneumoniae;

(iv) an antigen from hepatitis A, B, or C virus, and/or Bordetella pertussis;

(v) a diphtheria and/or tetanus antigen;

(vi) a saccharide antigen from Haemophilus influenzae B;

(vii) an antigen from N. gonorrhoeae, Chlamydia pneumoniae, C. trachomatis, and/or Porphyromonas gingivalis;

(viii) a polio and/or rabies antigen(s);

(ix) measles, mumps, and/or rubella antigens;

(x) an influenza antigen(s);

(xi) an antigen from Moraxella catarrhalis; and/or

(xii) an antigen from Staphlococcus aureus; and

(21) a composition comprising two or more proteins of (1), (1), or (2).

NH2-A-(-X-L-)n-B-COOH (F)

X = (I);

L = an optional linker amino acid sequence;

A = an optional N-terminal amino acid sequence;

B = an optional C-terminal amino acid sequence; and

n = an integer greater than 1.

ACTIVITY - Antibacterial; antiinflammatory. No suitable biological data is given.

MECHANISM OF ACTION - Gene therapy; vaccine.

USE - (I), nucleic acids encoding (I), and antibodies that bind (I) are used in the manufacture of medicaments for the treatment of prevention or infection or disease caused by Streptococcus bacteria,

particularly S. agalactiae and S. pyrogenes. Nucleic acid encoding (I) is used to detect Streptococcus in a biological sample. (I) is used to determine whether a compound binds to (I). A composition comprising (I) or a nucleic acid encoding (I), may be used as a vaccine or diagnostic composition (all claimed). The disease caused by Streptococcus that is prevented or treated may be meningitis. Nucleic acid encoding (I) may be used to recombinantly produce (I). Antibodies to (I) are used for affinity chromatography, immunoassays, and distinguishing/identifying Streptococcus proteins. Dwg.0/319

L6 ANSWER 2 OF 14 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-159874 [16] WPIDS
DOC. NO. NON-CPI: N2001-116484
DOC. NO. CPI: C2001-047626
TITLE: New BASB122 and BASB124 polypeptides and polynucleotides from Moraxella catarrhalis strain ATCC 43617, useful as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009337	A2	20010208	(200116)*	EN	75
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000065683	A	20010219	(200129)		
EP 1204749	A2	20020515	(200239)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009337	A2	WO 2000-EP7365	20000731
AU 2000065683	A	AU 2000-65683	20000731
EP 1204749	A2	EP 2000-953120	20000731
		WO 2000-EP7365	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000065683	A	Based on	WO 200109337
EP 1204749	A2	Based on	WO 200109337

PRIORITY APPLN. INFO: GB 1999-18036 19990730; GB 1999-18034

19990730

AN 2001-159874 [16] WPIDS

AB WO 200109337 A UPAB: 20010323

NOVELTY - New isolated polypeptides, comprising either of two 111 amino acid (I) or two 328 amino acid (II) sequences from Moraxella catarrhalis, all fully defined in the specification, or an at least 85 % identical sequence over their entire length, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide encoding the novel polypeptide, comprising:

(a) a sequence encoding the novel polypeptide;

(b) a sequence having at least 85 % identity to (a) over its entire length;

(c) a 336 (III) or 987 (IV) base pair sequence, both fully defined in the specification;

(d) a sequence at least 85 % identical to (III) or (IV) over their entire length;

(e) the complements of (a)-(d); or

(f) a sequence encoding (I) or (II) obtained by screening a library, under stringent conditions, with a labeled probe having (III), (IV), or fragments of them;

(2) a statement vector or a recombinant live microorganism, comprising the polynucleotide of (1);

(3) a host cell comprising the vector of (2), or a subcellular fraction or membrane of the host cell expressing the novel polypeptide;

(4) a process for producing the novel polypeptide, comprising culturing the host cell of (3) under expression conditions, and recovering the polypeptide;

(5) a process for expressing the polynucleotide of (1), comprising transforming a host cell with the vector of (2), and culturing the cell for expression of the polynucleotide;

(6) a vaccine composition comprising the novel polypeptide or the polynucleotide of (1), and a carrier;

(7) an antibody immunospecific for the novel polypeptide or its immunological fragment;

(8) a method for diagnosing a M. catarrhalis infection, comprising identifying the novel polypeptide or the antibody of (7) present within a biological sample; and

(9) a therapeutic composition comprising at least one antibody against the novel polypeptide.

ACTIVITY - Antibacterial; antiinflammatory; auditory.

MECHANISM OF ACTION - Vaccine; gene therapy.

No biological data is given.

USE - The composition comprising an immunologic amount of the polypeptide or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection. (All claimed). The polypeptides may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or

inflammation of the middle ear. The polypeptides or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the polypeptides or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs. Dwg.0/0

L6 ANSWER 3 OF 14 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-159871 [16] WPIDS
DOC. NO. NON-CPI: N2001-116481
DOC. NO. CPI: C2001-047623
TITLE: New BASB118 polypeptides and polynucleotides from Moraxella catarrhalis strain American Type Culture Collection 43617, for use as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009334	A1	20010208	(200116)*	EN	77
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000068330	A	20010219	(200129)		
EP 1206548	A1	20020522	(200241)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009334	A1	WO 2000-EP7360	20000731
AU 2000068330	A	AU 2000-68330	20000731
EP 1206548	A1	EP 2000-956353	20000731
		WO 2000-EP7360	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000068330	A	Based on	WO 200109334
EP 1206548	A1	Based on	WO 200109334

PRIORITY APPLN. INFO: GB 1999-18208 19990803
AN 2001-159871 [16] WPIDS
AB WO 200109334 A UPAB: 20010323

NOVELTY - An isolated polypeptide comprising:

(a) a sequence of 386 amino acids (I) from Moraxella catarrhalis, given in the specification; or

(b) an amino acid sequence, which has 85% identity to (I), over the entire length of (I), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment of the new polypeptide, in which the immunogenic activity of the fragment is the same as (I);

(2) isolated polynucleotides, which encode the new polypeptide, comprising:

(i) a nucleotide sequence encoding (a) or (b);

(ii) a nucleotide sequence that has 85% identity to the nucleotide sequence encoding (I) over the entire coding region;

(iii) a 1161 base pair (bp) DNA sequence (II), given in the specification;

(iv) a nucleotide sequence that has 85% identity to (II) over the entire length of (II);

(v) the complements of (i)-(iv); or

(vi) a nucleotide sequence encoding (I) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having (II) or its fragments;

(3) an expression vector or a recombinant live microorganism comprising an isolated polynucleotide of (2);

(4) a host cell comprising the expression vector of (3), or a subcellular fraction or membrane of the host cell expressing the new polypeptide;

(5) producing the new polypeptide comprising culturing (4) to produce the new polypeptide and recovering it from the culture medium;

(6) expressing a polynucleotide of (2) comprising transforming a host cell with the expression vector of (3) and culturing the host cell for expression of any of the polynucleotides;

(7) vaccine compositions comprising the new polypeptide or polynucleotide of (2), and a pharmaceutical carrier;

(8) an antibody immunospecific for the new polypeptide or immunological fragment;

(9) diagnosing a M. catarrhalis infection comprising identifying the new polypeptide or the antibody of (8) present within a biological sample from an animal suspected of having such an infection; and

(10) a therapeutic composition comprising an antibody of (8).

ACTIVITY - Antibacterial; antiinflammatory; pulmonary.

MECHANISM OF ACTION - Vaccine; gene therapy. Groups of mice were immunized either with the polypeptide (BASB118) adsorbed onto AlPO4 (10 micro g BASB118 onto 100 micro g of AlPO4), with a killed whole cell (kwc) preparation of M. catarrhalis strain American type Culture Collection (ATCC) 43617 adsorbed onto AlPO4, or with 100 micro g AlPO4 without antigen. The mice were challenged with 5 multiply 105 colony forming units (CFU) of live M. catarrhalis strain ATCC 43617 bacteria. The log10 weighted mean number of CFU/lung and the standard deviation 4 hours after challenge was calculated for each group. Sham immunized mice had 5.66 (+/-0.18) log10 CFU/lungs 4 hours after challenge. The kwc preparation induced significant lung clearance as compared to the control group (1.3 log difference). BASB118 vaccine induced a 0.43 log difference in lung clearance, which was significantly different from the control.

USE - A composition comprising an immunologic amount of the new

polypeptide or polynucleotide encoding it, is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The polypeptide may also be used as a prophylactic agent of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The polypeptides or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the new polypeptide or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging diseases, and determining the response of an infectious organism to drugs.
Dwg.0/1

L6 ANSWER 4 OF 14 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-159870 [16] WPIDS
DOC. NO. NON-CPI: N2001-116480
DOC. NO. CPI: C2001-047622
TITLE: New BASB123 polypeptides and polynucleotides from Moraxella catarrhalis strain American type Culture Collection 43617, for use as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009333	A2	20010208	(200116)*	EN	79
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000069880	A	20010219	(200129)		
EP 1216301	A2	20020626	(200249)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009333	A2	WO 2000-EP7296	20000727
AU 2000069880	A	AU 2000-69880	20000727

EP 1216301	A2	EP 2000-958311	20000727
		WO 2000-EP7296	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000069880	A	Based on	WO 200109333
EP 1216301	A2	Based on	WO 200109333

PRIORITY APPLN. INFO: GB 1999-17975 19990730
AN 2001-159870 [16] WPIDS
AB WO 200109333 A UPAB: 20010323
NOVELTY - An isolated polypeptide comprising:

(a) a sequence comprising one of two 167 amino acid sequences (designated I and II) from Moraxella catarrhalis, given in the specification; or

(b) an amino acid sequence, which has 85% identity to (I) or (II), over the entire length of (I) or (II), respectively, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment of the new polypeptide, in which the immunogenic activity of the fragment is the same as (I) or (II);

(2) isolated polynucleotides, which encode the new polypeptide, comprising:

(i) a nucleotide sequence encoding (a) or (b);

(ii) a nucleotide sequence that has 85% identity to the nucleotide sequence encoding (I) or (II) over the entire coding region;

(iii) a 504 base pair (bp) (III) or 501 bp (IV) DNA sequence, given in the specification;

(iv) a nucleotide sequence that has 85% identity to (III) or (IV) over the entire length of (III) or (IV), respectively;

(v) the complements of (i)-(iv); or

(vi) a nucleotide sequence encoding (I) or (II) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having (III), (IV), or fragments of (III) or (IV);

(3) an expression vector or a recombinant live microorganism comprising a polynucleotide of (2);

(4) a host cell comprising the expression vector of (3), or a subcellular fraction or membrane of the host cell expressing the new polypeptide;

(5) producing the new polypeptide comprising culturing (4) t produce the polypeptide and recovering it from the culture medium;

(6) expressing a polynucleotide of (2) comprising transforming a host cell with the expression vector of (3) and culturing the host cell for expression of any of the polynucleotides;

(7) vaccine compositions comprising the new polypeptide or polynucleotide of (2), and a pharmaceutical carrier;

(8) an antibody immunospecific for the new polypeptide or an immunological fragment;

(9) diagnosing a M. catarrhalis infection comprising identifying the new polypeptide or the antibody of (8) present within a biological sample from an animal suspected of having such an infection; and

(10) a therapeutic composition comprising an antibody of (8).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine; gene therapy. Clinical details

are described but no results are given.

USE - A composition comprising an immunologic amount of the new polypeptide or polynucleotide encoding it, is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The polypeptides may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The polypeptide or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the polypeptide or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of diseases, and determining the response of an infectious organism to drugs.
Dwg.0/2

L6 ANSWER 5 OF 14 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2001-168707 [17] WPIDS
DOC. NO. NON-CPI: N2001-121639
DOC. NO. CPI: C2001-050432
TITLE: New BASB125 polypeptide isolated from Moraxella catarrhalis for treating, preventing and diagnosing diseases associated with M. catarrhalis infection in mammals, e.g. otitis media in humans.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009331	A2	20010208	(200117)*	EN	73

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000064393	A	20010219	(200129)		
EP 1212424	A2	20020612	(200239)	EN	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009331	A2	WO 2000-EP7291	20000727
AU 2000064393	A	AU 2000-64393	20000727

EP 1212424	A2	EP 2000-951466	20000727
		WO 2000-EP7291	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000064393	A	Based on	WO 200109331
EP 1212424	A2	Based on	WO 200109331

PRIORITY APPLN. INFO: GB 1999-18041 19990730
AN 2001-168707 [17] WPIDS
AB WO 200109331 A UPAB: 20010328
NOVELTY - An isolated polypeptide having at least 85 % identity to a sequence (I) of 134 amino acids for a Moraxella catarrhalis BASB125 polypeptide, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polypeptide of sequence (I);

(2) immunogenic fragments of the polypeptide having the same immunogenic activity as sequence (I);

(3) an isolated polynucleotide:

(i) having 85 % identity to a polynucleotide encoding the polypeptide, especially 85 % identity to sequence (II) of 405 base pairs (bp) encoding sequence (I);

(ii) complementary to a polynucleotide of (i);

(iii) encoding the new polypeptide; and

(iv) encoding sequence (I) and obtained by screening a library under stringent conditions using sequence (II) or a fragment as a probe;

(4) vectors or recombinant live microorganisms comprising the polynucleotide;

(5) host cells comprising the vector and subcellular fragments/membranes of the host cells expressing the polypeptide;

(6) producing the new polypeptide comprising culturing the host cell of (5) to produce the polypeptide and recovering the polypeptide from the culture medium;

(7) expressing (3) comprising transforming a host cell with an expression vector of (4) and culturing the host cell to express the polynucleotide;

(8) vaccine compositions comprising the new polypeptide or (3);

(9) antibodies specific for the new polypeptide, or immunological fragments of (2);

(10) diagnosing a M. catarrhalis infection comprising identifying the new polypeptide or an antibody immunospecific for the polypeptide, present within a biological sample from an animal suspected of having the infection;

(11) preparing a medicament for generating an immune response in an animal using a composition comprising the new polypeptide or (3); and

(12) a therapeutic composition for treating humans with M.catarrhalis disease comprising an antibody against the new polypeptide.

ACTIVITY - Antibacterial. A sequence (II) of 405 base pairs (bp) was isolated from M. catarrhalis strain American Type Culture Collection (ATCC) 43617 by standard molecular biological techniques a sequence (I) of 134 amino acids deduced. Mice were immunized with a BASB125 vaccine or a killed whole cell (kwc) M. catarrhalis

preparation, or were sham immunized. After a booster, mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed 30 minutes-24 hours after challenge and lungs removed aseptically and homogenized. Homogenates were diluted and plated onto agar plates, and log10 weighted mean number of colony forming units/lung determined by counting. BASB125 vaccine and kwc preparations induced significant lung clearance of M. catarrhalis versus controls. No experimental data is given.

MECHANISM OF ACTION - Vaccine; gene therapy.

USE - The polypeptide, immunogenic fragments of the polypeptide, fusion proteins of the **polypeptide**, or polynucleotides encoding the **polypeptide** are used in **vaccine** compositions (claimed), optionally with another **M. catarrhalis antigen** (claimed). They can also be included in medicaments for use in generating an immune response in an animal (claimed). The vaccines and medicaments are useful in preventing and/or treating microbial diseases, especially diseases associated with M. catarrhalis infection in mammals (especially humans). The polypeptides/polynucleotides may be used to produce antibodies, which can be used in compositions useful therapeutically to treat humans with M. catarrhalis diseases (claimed). M. catarrhalis is a Gram-negative bacteria frequently isolated from the human upper respiratory tract and responsible for several pathologies in humans e.g. otitis media in children, pneumonia, sinusitis etc. The polypeptides, polynucleotides and antibodies are also useful diagnostically e.g. in the detection of the polypeptides/antibodies in a biological sample from an animal to diagnose M. catarrhalis infection (claimed). The diagnostic assays are useful e.g. to detect diseases, determine the stage and type of infection, determine the effect of drugs etc. The polypeptides and polynucleotides can also be used to detect antagonists and agonists useful e.g. in preventing, inhibiting and/or treating disease. The polynucleotides are also useful in producing hybridization probes to isolate sequences encoding BASB125 and similar sequences.

Dwg.0/0

L6 ANSWER 6 OF 14 MEDLINE DUPLICATE 1

ACCESSION NUMBER:	2001371311 MEDLINE
DOCUMENT NUMBER:	21246653 PubMed ID: 11349016
TITLE:	Conservation of outer membrane protein E among strains of Moraxella catarrhalis.
AUTHOR:	Murphy T F; Brauer A L; Yuskiw N; McNamara E R; Kirkham C
CORPORATE SOURCE:	Division of Infectious Diseases, Department of Medicine, State University of New York at Buffalo, 14215, USA.. murphyt@acsu.buffalo.edu
CONTRACT NUMBER:	AI28304 (NIAID)
SOURCE:	INFECTION AND IMMUNITY, (2001 Jun) 69 (6) 3576-80. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY:	United States
DOCUMENT TYPE:	Journal; Article; (JOURNAL ARTICLE)
LANGUAGE:	English
FILE SEGMENT:	Priority Journals
ENTRY MONTH:	200106
ENTRY DATE:	Entered STN: 20010702 Last Updated on STN: 20010702 Entered Medline: 20010628

AB Outer membrane protein E (OMP E) is a 50-kDa protein of Moraxella

catarrhalis which has several features that suggest that the **protein** may be an effective **vaccine** **antigen**. To assess the conservation of OMP E among strains of **M. catarrhalis**, 22 isolates were studied with eight monoclonal antibodies which recognize epitopes on different regions of the protein. Eighteen of 22 strains were reactive with all eight antibodies. The sequences of ompE from 16 strains of M. catarrhalis were determined, including the 4 strains which were nonreactive with selected monoclonal antibodies. Analysis of sequences indicate a high degree of conservation among strains, with sequence differences clustered in limited regions of the gene. To assess the stability of ompE during colonization of the human respiratory tract, the sequences of ompE of isolates collected from patients colonized with the same strain for 3 to 9 months were determined. The sequences remained unchanged. These results indicate that OMP E is highly conserved among strains of M. catarrhalis, and preliminary studies indicate that the gene which encodes OMP E remains stable during colonization of the human respiratory tract.

L6 ANSWER 7 OF 14 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2000-271440 [23] WPIDS
DOC. NO. NON-CPI: N2000-203227
DOC. NO. CPI: C2000-082932
TITLE: Novel BASB034 polynucleotides and polypeptides from Moraxella catarrhalis used to prepare vaccines against bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): RUELLE, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 90
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000015802	A1	20000323	(200023)*	EN	106
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9958632	A	20000403	(200034)		
NO 2001001263	A	20010430	(200134)		
BR 9914492	A	20010626	(200140)		
EP 1114160	A1	20010711	(200140)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
CZ 2001000927	A3	20010815	(200157)		
KR 2001085794	A	20010907	(200218)		
HU 2001003945	A2	20020228	(200223)		
CN 1326509	A	20011212	(200225)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000015802	A1	WO 1999-EP6781	19990914
AU 9958632	A	AU 1999-58632	19990914

NO 2001001263	A	WO 1999-EP6781	19990914
		NO 2001-1263	20010313
BR 9914492	A	BR 1999-14492	19990914
		WO 1999-EP6781	19990914
EP 1114160	A1	EP 1999-946171	19990914
		WO 1999-EP6781	19990914
CZ 2001000927	A3	WO 1999-EP6781	19990914
		CZ 2001-927	19990914
KR 2001085794	A	KR 2001-703287	20010314
HU 2001003945	A2	WO 1999-EP6781	19990914
		HU 2001-3945	19990914
CN 1326509	A	CN 1999-813243	19990914

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9958632	A	Based on	WO 200015802
BR 9914492	A	Based on	WO 200015802
EP 1114160	A1	Based on	WO 200015802
CZ 2001000927	A3	Based on	WO 200015802
HU 2001003945	A2	Based on	WO 200015802

PRIORITY APPLN. INFO: GB 1998-20002 19980914
AN 2000-271440 [23] WPIDS
AB WO 200015802 A UPAB: 20000516
NOVELTY - Isolated BASB034 polypeptides from Moraxella catarrhalis are new.

DETAILED DESCRIPTION - An isolated BASB034 polypeptide (I) is new, and comprises an amino acid sequence which has at least 85% or 95% identity to, or is, one of the four fully defined 442 amino acid sequences given in the specification ((Ia)-(Id)).

INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment of (I) in which the immunogenic activity is substantially the same as (Ia)-(Id);

(2) an isolated polynucleotide encoding (I), or a complementary nucleotide;

(3) an isolated polynucleotide which has at least 85% identity to a nucleotide encoding (I), or a complementary nucleotide;

(4) an isolated polynucleotide (II) which comprises a sequence which has at least 85% or 95% identity to over the entire length of, or is, one of the four fully defined 1329 base pair (bp) sequences given in the specification, or its complement;

(5) an isolated polynucleotide encoding (Ia)-(Id), obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (II), or its fragment;

(6) an expression vector or recombinant live microorganism comprising (II), or the polynucleotides of (2), (3), and (5);

(7) a host cell comprising the expression vector of (6), or a subcellular fraction of that cell expressing (I);

(8) producing (I), comprising culturing the host cell of (7) under conditions sufficient for the production of the polypeptide, and recovering the polypeptide from the culture medium;

(9) expressing (II) or the polynucleotides of (2), (3) or (5), comprising transforming a host cell with a vector comprising at least one of these polynucleotides, and culturing the cell under conditions sufficient for expression of the polynucleotide;

(10) a vaccine composition comprising an effective amount of (I), (II) or the polynucleotides of (2), (3) or (5);;

(11) an antibody immunospecific for (I), or the fragment of (1);

(12) diagnosing a Moraxella infection, comprising identifying (I), or an antibody that is immunospecific for (I), present within a biological sample from an animal suspected of having such an infection;

(13) use of a composition comprising an immunologically effective amount of (I) or (II) or the polynucleotides of (2), (3) or (5) in the preparation of a medicament for use in generating an immune response in an animal; and

(14) a therapeutic composition useful in treating humans with M. catarrhalis, comprising at least one antibody directed against (I) and a pharmaceutically acceptable carrier.

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - The polynucleotides and polypeptides may be employed as research reagents and material for the discovery of treatments and diagnostics for diseases, particularly human diseases. They are particularly used to diagnose and treat M. catarrhalis infections (claimed). They can be used for diagnosis of disease, staging of disease, or determining response of an infectious organism to drugs. The polynucleotides may be used as a source for hybridization probes, and for screening of genetic mutations, serotype, organism or strain identification, identification of mutations in BASB034 sequences, and as components of arrays which are useful for diagnostic and prognostic purposes. The polypeptides can be used to produce antibodies. The polypeptides can also be used in vaccine formulations, and to identify agonists and antagonists. The polypeptides, antibodies, agonists and antagonists (which are bacteriostatic) are used for the treatment and prevention of diseases such as otitis media in infants and children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, and chronic otitis media with hearing loss. The polypeptides, agonists and antagonists are also used for screening of antibacterial drugs.

ADVANTAGE - The frequency of Moraxella catarrhalis infections has risen dramatically, and it is no longer common to isolate M. catarrhalis strains that are resistant to standard antibiotics. The BASB034 products of the invention can be used screen for new antibacterial compounds that may target these resistant bacteria. Dwg.0/6

L6 ANSWER 8 OF 14 MEDLINE DUPLICATE 2

ACCESSION NUMBER: 1999386849 MEDLINE

DOCUMENT NUMBER: 99386849 PubMed ID: 10456903

TITLE: Analysis of antigenic structure and human immune response to outer membrane protein CD of Moraxella catarrhalis.

AUTHOR: Murphy T F; Kirkham C; DeNardin E; Sethi S

CORPORATE SOURCE: Divisions of Infectious Diseases, School of Medicine and Biomedical Sciences, State University of New York at Buffalo, Buffalo, New York 14215, USA.. murphyt@acsu.buffalo.edu

CONTRACT NUMBER: AI28304 (NIAID)

SOURCE: INFECTION AND IMMUNITY, (1999 Sep) 67 (9) 4578-85. Journal code: 0246127. ISSN: 0019-9567.

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 19991014
Last Updated on STN: 19991014
Entered Medline: 19991005

AB Moraxella catarrhalis is an important cause of otitis media in children and lower respiratory tract infections in adults with chronic obstructive pulmonary disease (COPD). Outer membrane protein CD (OMP CD) is a 45-kDa **protein** which is a potential **vaccine antigen** to prevent infections caused by **M. catarrhalis**. Eight monoclonal antibodies were used to study the antigenic structure of the OMP CD molecule by assaying recombinant peptides corresponding to the sequence of the protein. This approach identified two surface-exposed epitopes, including one near the amino terminus (amino acids 25 to 44) and one in the central region of the molecule (amino acids 261 to 331). Assays with serum and sputum supernatants of adults with COPD revealed variable levels of antibodies to OMP CD among individuals. To determine which portions of the OMP CD molecule were recognized by human antibodies, three human serum samples were studied with six recombinant peptides which span the sequence of OMP CD. All three sera contained immunoglobulin G antibodies which recognized exclusively the peptide corresponding to amino acids 203 to 260 by immunoblot assay. Adsorption experiments with whole bacteria established that some of the human antibodies are directed at surface-exposed epitopes on OMP CD. We conclude that OMP CD is a highly conserved molecule which contains at least two separate epitopes which are exposed on the bacterial surface. While individual adults with COPD show variability in the immune response to OMP CD, a specific region of the OMP CD molecule (amino acids 203 to 260) is important as a target of the human immune response.

L6 ANSWER 9 OF 14 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2000036213 MEDLINE
DOCUMENT NUMBER: 20036213 PubMed ID: 10571435
TITLE: Antibody response to outer membrane proteins of Moraxella catarrhalis in children with otitis media.
AUTHOR: Mathers K; Leinonen M; Goldblatt D
CORPORATE SOURCE: Immunobiology Unit, Institute of Child Health, London, UK.
SOURCE: PEDIATRIC INFECTIOUS DISEASE JOURNAL, (1999 Nov) 18 (11) 982-8.
Journal code: 8701858. ISSN: 0891-3668.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199912
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991203

AB BACKGROUND: Moraxella catarrhalis is an important cause of bacterial otitis media, and a vaccine to prevent this disease would be highly desirable. Analysis of the dominant antigens on the surface of M.

catarrhalis recognized by the human immune response to infection might aid in such a search. Such analysis would be most informative when studied in the eventual target age group for the vaccine; thus we have studied the immune response to M. catarrhalis in infants with otitis media. METHODS: Eighteen infants (mean age, 9.4 months) experiencing an episode of otitis media caused by M. catarrhalis were studied. Acute and convalescent antibody responses were studied by whole cell enzyme-linked immunosorbent assay (heterologous strain) and by immunoblotting of outer membrane proteins (OMPs). RESULTS: Specific IgG was detected in 17% of acute serum samples and in 61% of convalescent sera. A rise in specific IgG was detected in 10 of 12 (83%) children 8 months of age or older, compared with 1 of 6 (17%) in younger patients (P = 0.0128). Immunoblotting revealed antibody binding to several OMPs with some detectable cross-reactivity. Four dominant OMP targets were identified, corresponding to UspA, TbpB, CopB and a approximately 60-kDa **protein**. CONCLUSIONS: A combination of **antigens** might form the most suitable basis for a **M. catarrhalis vaccine** designed to prevent otitis media in this age group.

L6 ANSWER 10 OF 14 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 1999115543 MEDLINE
DOCUMENT NUMBER: 99115543 PubMed ID: 9916077
TITLE: Use of an isogenic mutant constructed in Moraxella catarrhalis To identify a protective epitope of outer membrane protein B1 defined by monoclonal antibody 11C6.
AUTHOR: Luke N R; Russo T A; Luther N; Campagnari A A
CORPORATE SOURCE: Department of Microbiology, State University of New York at Buffalo, Buffalo, New York 14214, USA.
SOURCE: INFECTION AND IMMUNITY, (1999 Feb) 67 (2) 681-7. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF105251
ENTRY MONTH: 199903
ENTRY DATE: Entered STN: 19990324
Last Updated on STN: 19990324
Entered Medline: 19990309

AB Moraxella catarrhalis-induced otitis media continues to be a significant cause of infection in young children, prompting increased efforts at identifying effective **vaccine antigens**. We have previously demonstrated that **M. catarrhalis** expresses specific outer membrane **proteins** (OMPs) in response to iron limitation and that this organism can utilize transferrin and lactoferrin for in vitro growth. One of these proteins, which binds human transferrin, is OMP B1. As the human host presents a naturally iron-limited environment, proteins, like OMP B1, which are expressed in response to this nutritional stress are potential vaccine antigens. In this study, we have developed monoclonal antibody (MAb) 11C6, which reacts to a surface-exposed epitope of OMP B1 expressed by M. catarrhalis 7169. This antibody was used to clone ompB1, and sequence analysis suggested that OMP B1 is the M. catarrhalis homologue to the transferrin binding protein B described for pathogenic

Neisseriaceae, Haemophilus influenzae, Actinobacillus pleuropneumoniae, and M. catarrhalis. Expression of recombinant OMP B1 on the surface of Escherichia coli confers transferrin binding activity, confirming that this protein is likely involved in iron acquisition. In addition, ompB1 was used to construct an isogenic mutant in M. catarrhalis 7169. This mutant, termed 7169b12, was used as the control in bactericidal assays designed to determine if OMP B1 elicits protective antibodies. In the presence of MAb 11C6 and human complement, wild-type 7169 demonstrated a 99% decline in viability, whereas the ompB1 isogenic mutant was resistant to this bactericidal activity. Further analysis with MAb 11C6 revealed the presence of this OMP B1 epitope on 31% of the clinical isolates tested. These data suggest that OMP B1 is a potential vaccine antigen against M. catarrhalis infections.

L6 ANSWER 11 OF 14 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 1998380363 MEDLINE
DOCUMENT NUMBER: 98380363 PubMed ID: 9712766
TITLE: The transferrin binding **protein** B of **Moraxella catarrhalis** elicits bactericidal antibodies and is a potential **vaccine antigen**.
AUTHOR: Myers L E; Yang Y P; Du R P; Wang Q; Harkness R E; Schryvers A B; Klein M H; Loosmore S M
CORPORATE SOURCE: Pasteur Merieux Connaught Canada Research, North York, Ontario, Canada M2R 3T4.
SOURCE: INFECTION AND IMMUNITY, (1998 Sep) 66 (9) 4183-92. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF039311; GENBANK-AF039312; GENBANK-AF039313; GENBANK-AF039314; GENBANK-AF039315; GENBANK-AF039316
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 19981020
Last Updated on STN: 19981020
Entered Medline: 19981002

AB The transferrin binding protein genes (tbpA and tbpB) from two strains of Moraxella catarrhalis have been cloned and sequenced. The genomic organization of the M. catarrhalis transferrin binding protein genes is unique among known bacteria in that tbpA precedes tbpB and there is a third gene located between them. The deduced sequences of the M. catarrhalis TbpA proteins from two strains were 98% identical, while those of the TbpB proteins from the same strains were 63% identical and 70% similar. The third gene, tentatively called orf3, encodes a protein of approximately 58 kDa that is 98% identical between the two strains. The tbpB genes from four additional strains of M. catarrhalis were cloned and sequenced, and two potential families of TbpB proteins were identified based on sequence similarities. Recombinant TbpA (rTbpA), rTbpB, and rORF3 proteins were expressed in Escherichia coli and purified. rTbpB was shown to retain its ability to bind human transferrin after transfer to a membrane, but neither rTbpA nor rORF3 did. Monospecific anti-rTbpA and anti-rTbpB antibodies were generated and used for immunoblot analysis, which demonstrated that epitopes of M. catarrhalis TbpA and TbpB were antigenically conserved and that there was constitutive expression of the tbp genes. In the absence

of an appropriate animal model, anti-rTbpA and anti-rTbpB antibodies were tested for their bactericidal activities. The anti-rTbpA antiserum was not bactericidal, but anti-rTbpB antisera were found to kill heterologous strains within the same family. Thus, if bactericidal ability is clinically relevant, a vaccine comprising multiple rTbpB antigens may protect against M. catarrhalis disease.

L6 ANSWER 12 OF 14 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 1998114138 MEDLINE
DOCUMENT NUMBER: 98114138 PubMed ID: 9453393
TITLE: Characterisation of an outer membrane protein of Moraxella catarrhalis.
AUTHOR: Mathers K E; Goldblatt D; Aebi C; Yu R; Schryvers A B; Hansen E J
CORPORATE SOURCE: Immunobiology Unit, Institute of Child Health, London, UK.
CONTRACT NUMBER: AI-36344 (NIAID)
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (1997 Nov) 19 (3) 231-6.
Journal code: 9315554. ISSN: 0928-8244.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199802
ENTRY DATE: Entered STN: 19980224
Last Updated on STN: 19980224
Entered Medline: 19980212
AB To elucidate potential **vaccine antigens**, **Moraxella catarrhalis** outer membrane **proteins** (OMPs) were studied. We have previously shown an OMP to be a target for human IgG and have now further characterised this OMP which appears to have a molecular mass of 84 kDa and to be distinct from the 81-kDa OMP, CopB. Human transferrin was shown to bind the 84-kDa OMP alone. N-terminal sequencing of this OMP and purified M. catarrhalis transferrin binding protein B (TbpB) revealed homology both with each other and with the TbpB of Haemophilus influenzae and Neisseria meningitidis. Adsorption of human anti-serum with purified TbpB from two M. catarrhalis strains abolished or reduced binding of IgG to the 84-kDa OMP from three M. catarrhalis isolates. IgG binding to CopB was unaffected. It is clear that the 84-kDa OMP is distinct from CopB and is a likely homologue of TbpB.

L6 ANSWER 13 OF 14 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 97247713 MEDLINE
DOCUMENT NUMBER: 97247713 PubMed ID: 9093840
TITLE: The major outer membrane **protein**, CD, extracted from Moraxella (**Branhamella**) **catarrhalis** is a potential **vaccine antigen** that induces bactericidal antibodies.
AUTHOR: Yang Y P; Myers L E; McGuinness U; Chong P; Kwok Y; Klein M H; Harkness R E
CORPORATE SOURCE: Research Center, Pasteur Merieux Connaught Canada, North York, Ont., Canada.. ypyang@ca.pmc-vacc.com
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (1997 Mar) 17 (3) 187-99.
Journal code: 9315554. ISSN: 0928-8244.

PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199705
ENTRY DATE: Entered STN: 19970609
Last Updated on STN: 19970609
Entered Medline: 19970529

AB The major outer membrane protein of Moraxella (Branhamella) catarrhalis, CD, was detergent-extracted from the bacterial cell wall and purified to homogeneity in high yields by a simple process. The purified protein appeared to exhibit immunogenic properties similar to those of native CD exposed on the surface of the bacterium. Antibodies to CD raised in mice specifically bound to intact B. catarrhalis, as determined by flow cytometry analysis. The IgG subclass distributions of anti-CD antibodies in sera from mice immunized with purified CD or with B. catarrhalis were also similar. CD was found to be antigenically conserved among a panel of B. catarrhalis isolates, as demonstrated by the consistent reactivities of mouse anti-CD antisera with a common 60 kDa protein on immunoblots. Furthermore, convalescent sera collected from patients with otitis media due to B. catarrhalis infection were found to be reactive with the CD protein by immunoblotting. Finally, the purified protein induced antibodies in guinea pigs and mice that exhibited in vitro bactericidal activity against the pathogen. Therefore, the native CD outer membrane **protein** represents a potentially useful **antigen** for inclusion in a **vaccine** against **B. catarrhalis**.

L6 ANSWER 14 OF 14 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 95050224 MEDLINE
DOCUMENT NUMBER: 95050224 PubMed ID: 7961416
TITLE: Molecular cloning and characterization of outer membrane protein E of Moraxella (Branhamella) catarrhalis.
AUTHOR: Bhushan R; Craigie R; Murphy T F
CORPORATE SOURCE: Laboratory of Molecular Biology, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, Maryland 20892.
CONTRACT NUMBER: AI28304 (NIAID)
SOURCE: JOURNAL OF BACTERIOLOGY, (1994 Nov) 176 (21) 6636-43.
Journal code: 2985120R. ISSN: 0021-9193.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-L31788; GENBANK-M37714
ENTRY MONTH: 199411
ENTRY DATE: Entered STN: 19950110
Last Updated on STN: 19950110
Entered Medline: 19941130

AB Outer membrane **protein** E (OMP E) is a 50-kDa **protein** of Moraxella (**Branhamella**) **catarrhalis**. It is a potential **vaccine** **antigen** because it is expressed on the surface of the bacterium and has antigenic determinants which are conserved among most strains of M. catarrhalis. To clone the gene encoding OMP E, an EMBL-3 genomic library of strain 25240 was screened with a family of

degenerate oligonucleotides based on the amino-terminal protein sequence. The OMP E gene was identified in one of the six positive clones by Southern blot analysis. An open reading frame of 1,377 bp encoding a protein of 460 amino acids was identified. The calculated molecular mass of the mature protein of 436 amino acid residues was 47.03 kDa, which correlated well with the results of sodium dodecyl sulfate-polyacrylamide gel electrophoresis. The protein product of the OMP E gene had a leader peptide of 25 amino acids and a signal peptidase 1 cleavage site similar to those of known OMPs of Escherichia coli. The transcription initiation site of the OMP E gene was mapped by primer extension to be 78 nucleotides upstream of the ATG start codon. Borderline homology was found to the FadL protein of E. coli (49.1% similarity and 25.6% identity), which is involved in the binding and transport of fatty acids. Analysis of restriction fragment length polymorphisms of the OMP E genes of 19 different strains of M. catarrhalis showed that the OMP E gene is highly conserved.(ABSTRACT TRUNCATED AT 250 WORDS)

FILE 'USPATFULL' ENTERED AT 11:07:51 ON 06 SEP 2002
L7 22 S L4

L7 ANSWER 1 OF 22 USPATFULL
ACCESSION NUMBER: 2002:217055 USPATFULL
TITLE: Transferrin receptor genes of Moraxella
INVENTOR(S): Myers, Lisa E., Guelph, CANADA
Schryvers, Anthony B., Calgary, CANADA
Harkness, Robin E., Willowdale, CANADA
Loosmore, Sheena M., Aurora, CANADA
Du, Run-Pan, Thornhill, CANADA
Yang, Yan-Ping, Willowdale, CANADA
Klein, Michel H., Willowdale, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6440701	B1	20020827
APPLICATION INFO.:	US 1998-59584		19980414 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 1997-CA163, filed on 7 Mar 1997 Continuation-in-part of Ser. No. US 1997-778570, filed on 3 Jan 1997 Continuation-in-part of Ser. No. US 1996-613009, filed on 8 Mar 1996
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Pak, Michael
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 172 Drawing Figure(s); 172 Drawing Page(s)
LINE COUNT: 5170
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Purified and isolated nucleic acid molecules are provided which encode transferrin receptor proteins of Moraxella, such as M. catarrhalis or a fragment or an analog of the transferrin receptor protein. The nucleic acid sequence may be used to produce recombinant transferrin receptor proteins Tbp1 and Tbp2 of the strain of Moraxella free of other proteins of the Moraxella strain

for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 435/069.100; 435/069.300; 435/069.700; 435/071.100; 435/071.200; 435/252.100; 435/252.300; 435/325.000; 536/023.100; 536/023.400; 536/023.700
NCL NCLM: 435/069.300
NCLS: 435/069.100; 435/069.300; 435/069.700; 435/071.100; 435/071.200; 435/252.100; 435/252.300; 435/325.000; 536/023.100; 536/023.400; 536/023.700

L7 ANSWER 2 OF 22 USPATFULL
ACCESSION NUMBER: 2002:216836 USPATFULL
TITLE: High molecular weight major outer membrane protein of moraxella
INVENTOR(S): Sasaki, Ken, Willowdale, CANADA
Harkness, Robin E., Willowdale, CANADA
Loosmore, Sheena M., Aurora, CANADA
Klein, Michel H., Willowdale, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6440424	B1	20020827
APPLICATION INFO.:	US 1995-483855		19950607 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1995-431718, filed on 1 May 1995, now patented, Pat. No. US 6335018
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 18 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 1408
AB An isolated and purified outer membrane protein of a Moraxella strain, particularly M. catarrhalis, has a molecular mass of about 200 kDa. The about 200 kDa outer membrane protein as well as nucleic acid molecules encoding the same are useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the about 200 kDa outer membrane protein or produces a protein capable of inducing antibodies in a host specifically reactive with the about 200 kDa outer membrane protein.

INCL INCLM: 424/251.100
INCLS: 530/350.000; 530/412.000; 530/413.000; 530/414.000; 530/415.000; 424/190.100; 424/184.100; 424/234.100; 424/251.100; 514/002.000; 514/008.000; 930/200.000
NCL NCLM: 424/251.100
NCLS: 530/350.000; 530/412.000; 530/413.000; 530/414.000; 530/415.000; 424/190.100; 424/184.100; 424/234.100;

424/251.100; 514/002.000; 514/008.000; 930/200.000

L7 ANSWER 3 OF 22 USPATFULL
ACCESSION NUMBER: 2002:133221 USPATFULL
TITLE: HIGH MOLECULAR WEIGHT MAJOR OUTER MEMBRANE PROTEIN OF MORAXELLA
INVENTOR(S): SASAKI, KEN, WILLOWDALE, CANADA
HARKNESS, ROBIN E., WILLOWDALE, CANADA
LOOSMORE, SHEENA M., AURORA, CANADA
CHONG, PELE, RICHMOND HILL, CANADA
KLEIN, MICHEL H., WILLOWDALE, CANADA

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002068070	A1	20020606	
	US 6440425	B2	20020827	
APPLICATION INFO.:	US 1996-621944	A1	19960326	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SIM AND MCBURNEY, SUITE 701, 330 UNIVERSITY AVENUE, TORONTO, M5G1R7
NUMBER OF CLAIMS: 37
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 25 Drawing Page(s)
LINE COUNT: 1685
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated and purified outer membrane protein of a Moraxella strain, particularly M. catarrhalis, having a molecular mass of about 200 kDa, is provided. The about 200 kDa outer membrane protein as well as nucleic acid molecules encoding the same are useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the about 200 kDa outer membrane protein or produces a protein capable of inducing antibodies in a host specifically reactive with the about 200 kDa outer membrane protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 530/350.000
NCL NCLM: 424/251.100
NCLS: 424/184.100; 424/185.100; 424/190.100; 424/234.100; 424/803.000; 530/300.000; 530/324.000; 530/325.000; 530/326.000

L7 ANSWER 4 OF 22 USPATFULL
ACCESSION NUMBER: 2002:115794 USPATFULL
TITLE: Multi-component vaccine to protect against disease caused by Haemophilus influenzae and Moraxella catarrhalis
INVENTOR(S): Loosmore, Sheena M., Aurora, CANADA
Yang, Yan-Ping, Willowdale, CANADA
Klein, Michel H., Willowdale, CANADA
Sasaki, Ken, Willowdale, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6391313	B1	20020521
APPLICATION INFO.:	US 1999-353617		19990715 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Graser, Jennifer E.
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 22
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 28 Drawing Figure(s); 18 Drawing Page(s)
LINE COUNT: 1437
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A multi-valent immunogenic composition confers protection on an immunized host against infection caused by both Haemophilus influenzae and Moraxella catarrhalis. Such composition comprises at least four antigens comprising at least one antigen from Haemophilus influenzae, and at least one antigen from Moraxella catarrhalis. Three of the antigens are adhesins. High molecular weight (HMW) proteins and Haemophilus influenzae adhesin (Hia) proteins of non-typeable Haemophilus and a 200 kDa outer membrane protein of Moraxella catarrhalis comprise the adhesin components while the other antigen is a non-proteolytic analog of Hin47 protein. Each component does not impair the immunogenicity of the others. The multi-valent immunogenic composition may be combined with DTP component vaccines, which may also include non-virulent poliovirus and PRP-T, to provide a component vaccine without impairment of the immunogenic properties of the other antigens.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/203.100
INCLS: 424/256.100; 424/251.100; 424/234.100; 424/193.100; 424/203.100; 424/197.110; 530/350.000
NCL NCLM: 424/203.100
NCLS: 424/193.100; 424/197.110; 424/234.100; 424/251.100; 424/256.100; 530/350.000

L7 ANSWER 5 OF 22 USPATFULL
ACCESSION NUMBER: 2002:931 USPATFULL
TITLE: High molecular weight major outer membrane protein of moraxella
INVENTOR(S): Sasaki, Ken, Willowdale, CANADA
Harkness, Robin E., Willowdale, CANADA
Klein, Michel H., Willowdale, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6335018	B1	20020101
APPLICATION INFO.:	US 1995-431718		19950501 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 1398

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An isolated and purified outer membrane protein of a Moraxella strain, particularly M. catarrhalis, has a molecular mass of about 200 kDa. The about 200 kDa outer membrane protein as well as nucleic acid molecules encoding the same are useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the about 200 kDa outer membrane protein or produces a protein capable of inducing antibodies in a host specifically reactive with the about 200 kDa outer membrane protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

INCL INCLM: 424/251.100
INCLS: 424/190.100; 424/251.100; 424/235.100; 424/184.100; 435/172.300; 530/300.000; 530/806.000; 530/825.000; 530/350.000; 536/023.500

NCL NCLM: 424/251.100
NCLS: 424/184.100; 424/190.100; 424/235.100; 435/471.000; 530/300.000; 530/350.000; 530/806.000; 530/825.000; 536/023.500

L7 ANSWER 6 OF 22 USPATFULL

ACCESSION NUMBER: 2001:157808 USPATFULL
TITLE: Transferrin receptor protein of Moraxella
INVENTOR(S): Yang, Yan-Ping, Willowdale, Canada
Myers, Lisa E., Guelph, Canada
Harkness, Robin E., Willowdale, Canada
Klein, Michel H., Willowdale, Canada
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6290970	B1	20010918	
APPLICATION INFO.:	US 1995-540753		19951011	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 12 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 1199

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An isolated and purified non-denatured transferrin receptor protein of a Moraxella strain, particularly M. catarrhalis, has an apparent molecular mass of about 80 to about 90 kDa, as determined by SDS-PAGE. The transferrin receptor protein or a fragment analog thereof is useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a strain of Moraxella.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

INCL INCLM: 424/251.100
INCLS: 530/350.000; 530/412.000; 424/190.100; 424/250.100; 424/184.100; 424/234.100; 514/002.000

NCL NCLM: 424/251.100

NCLS: 424/184.100; 424/190.100; 424/234.100; 424/250.100;
514/002.000; 530/350.000; 530/412.000

L7 ANSWER 7 OF 22 USPATFULL
ACCESSION NUMBER: 2001:134223 USPATFULL
TITLE: HIGH MOLECULAR WEIGHT MAJOR OUTER MEMBRANE PROTEIN OF MORAXELLA
INVENTOR(S): SASAKI, KEN, WILLOWDALE, Canada
HARKNESS, ROBIN E., WILLOWDALE, Canada
LOOSMORE, SHEENA M., AURORA, Canada
CHONG, PELE, RICHMOND HILL, Canada
KLEIN, MICHEL H., WILLOWDALE, Canada

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001014672	A1	20010816
APPLICATION INFO.:	US 1998-945567	A1	19980319 (8)
	WO 1996-CA264		19960429
			None PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	US 1995-8431718	19950501
	US 1995-8478370	19950607
	US 1996-8621944	19960320

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: SIM & MCBURNEY, 6TH FLOOR, 330 UNIVERSITY AVENUE, TORONTO ONTARIO
NUMBER OF CLAIMS: 37
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 47 Drawing Page(s)
LINE COUNT: 1689
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated and purified outer membrane protein of a Moraxella strain, particularly M. catarrhalis, having a molecular mass of about 200 kDa, is provided. The about 200 kDa outer membrane protein as well as nucleic acid molecules encoding the same are useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the about 200 kDa outer membrane protein or produces a protein capable of inducing antibodies in a host specifically reactive with the about 200 kDa outer membrane protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 514/100.000
INCLS: 530/350.000
NCL NCLM: 514/100.000
NCLS: 530/350.000

L7 ANSWER 8 OF 22 USPATFULL
ACCESSION NUMBER: 2001:25435 USPATFULL
TITLE: Transferrin receptor protein of moraxella
INVENTOR(S): Yang, Yan-Ping, Willowdale, Canada
Myers, Lisa E., Guelph, Canada
Harkness, Robin E., Willowdale, Canada
Klein, Michel H., Willowdale, Canada

PATENT ASSIGNEE(S): Connaught Laboratories Limited, Toronto, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6190668	B1	20010220	
	WO 9713785		19970417	
APPLICATION INFO.:	US 1998-51320		19980730	(9)
	WO 1996-CA684		19961011	
			19980730	PCT 371 date
			19980730	PCT 102(e) date

RELATED APPLN. INFO.: Continuation of Ser. No. US 1995-540753, filed on 11 Oct 1995
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 1221
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An isolated and purified non-denatured transferrin receptor protein of a Moraxella strain, particularly M. catarrhalis, has an apparent molecular mass of about 80 to about 90 kDa, as determined by SDS-PAGE. The transferrin receptor protein or a fragment analog thereof is useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a strain of Moraxella. The transferrin receptor protein is isolated from strains of Moraxella catarrhalis by a procedure including extraction of agent soluble proteins of a cell mass produced by cultivating the strain under iron-starved conditions. The transferrin receptor protein is selectively solubilized from the extracted cell mass and purified.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 530/387.100; 530/412.000; 530/417.000; 435/007.100; 435/007.800; 435/070.200
NCL NCLM: 424/251.100
NCLS: 435/007.100; 435/007.800; 435/070.200; 530/387.100; 530/412.000; 530/417.000

L7 ANSWER 9 OF 22 USPATFULL
ACCESSION NUMBER: 2001:18617 USPATFULL
TITLE: Lactoferrin receptor genes of Moraxella
INVENTOR(S): Loosmore, Sheena M., Aurora, Canada
Du, Run-Pan, Thornhill, Canada
Wang, Quijun, Thornhill, Canada
Yang, Yan-Ping, Willowdale, Canada
Klein, Michel H., Willowdale, Canada
PATENT ASSIGNEE(S): Connaught Laboratories Limited, Toronto, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6184371	B1	20010206	
APPLICATION INFO.:	US 1998-74658		19980508	(9)

Searcher : Shears 308-4994

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-867941, filed on 3 Jun 1997, now patented, Pat. No. US 5977337
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Graser, Jennifer
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 140 Drawing Figure(s); 130 Drawing Page(s)
LINE COUNT: 1824
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Purified and isolated nucleic acid molecules are provided which encode lactoferrin receptor proteins of Moraxella, such as M. catarrhalis, or a fragment or an analog of the lactoferrin receptor protein. The nucleic acid sequence may be used to produce recombinant lactoferrin receptor proteins Lbp1, Lbp2 and ORF3 of the strain of Moraxella free of other proteins of the Moraxella strain for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 536/023.700
INCLS: 536/023.100; 536/024.300; 536/024.320; 435/320.100; 435/069.100; 435/069.300; 435/069.700; 435/252.300; 424/200.100; 424/251.100
NCL NCLM: 536/023.700
NCLS: 424/200.100; 424/251.100; 435/069.100; 435/069.300; 435/069.700; 435/252.300; 435/320.100; 536/023.100; 536/024.300; 536/024.320

L7 ANSWER 10 OF 22 USPATFULL
ACCESSION NUMBER: 1999:166603 USPATFULL
TITLE: Outer membrane protein B1 of Moraxella catarrhalis
INVENTOR(S): Campagnari, Anthony A., Hamburg, NY, United States
PATENT ASSIGNEE(S): The Research Foundation of the State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6004562		19991221
APPLICATION INFO.:	US 1996-698652		19960816 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Ryan, V.
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews, Woods & Goodyear, LLP
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 915
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated and purified outer membrane protein B1, and peptides formed therefrom, of Moraxella catarrhalis are described. A method

for the isolation and purification of outer membrane protein B1 from a bacterial strain that produces B1 protein, e.g. Moraxella catarrhalis, comprises growing the bacteria in culture in iron-depleted medium to enhance the expression of the B1 protein, harvesting the bacteria from the culture, extracting from the harvested bacteria a preparation substantially comprising an outer membrane protein preparation, contacting the outer membrane preparation with an affinity matrix containing immobilized transferrin wherein B1 protein binds to the transferrin, and eluting the bound B1 protein from the transferrin. Disclosed are the uses of the B1 protein as an immunogen for vaccine formulations, and as antigens in diagnostic immunoassays.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 424/184.100; 424/234.100
NCL NCLM: 424/251.100
NCLS: 424/184.100; 424/234.100

L7 ANSWER 11 OF 22 USPATFULL
ACCESSION NUMBER: 1999:155210 USPATFULL
TITLE: Methods and compositions relating to useful antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Helminen, Meria E., Helsinki, Finland
Maciver, Isobel, Dallas, TX, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5993826		19991130
APPLICATION INFO.:	US 1993-25363		19930302 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 1992-US6869, filed on 14 Aug 1992 which is a continuation-in-part of Ser. No. US 1991-745591, filed on 21 Aug 1991, now patented, Pat. No. US 5552146
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Sidberry, Hazel F.
LEGAL REPRESENTATIVE: Arnold White & Durkee
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 3037
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present disclosure relates to Moraxella catarrhalis outer membrane vesicle (OMV) compositions, to selected antigenic proteins from the outer membranes of M. catarrhalis which have a variety of useful properties, and to monoclonal antibodies against these proteins. Particular "Outer Membrane Proteins" (OMPs) of the invention are characterized as having molecular weights of about 30 kD, 80 kD (also termed CopB protein) and between about 200 and 700 kD (HMWP antigen). Passive immunization with monoclonal antibodies directed against these proteins confers protection against homologous and heterologous Moraxella catarrhalis strains in animal models, and active immunization with outer membrane

vesicles also enhances pulmonary clearance of distinct M. catarrhalis strains. This demonstrates both the utility of antibodies in conferring passive immunity and the usefulness of OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens, or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and related embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 424/184.100; 530/350.000; 530/388.100; 530/388.200; 435/069.100; 435/069.300
NCL NCLM: 424/251.100
NCLS: 424/184.100; 435/069.100; 435/069.300; 530/350.000; 530/388.100; 530/388.200

L7 ANSWER 12 OF 22 USPATFULL
ACCESSION NUMBER: 1999:141620 USPATFULL
TITLE: Methods and compositions relating to useful antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Helminen, Merja E., Helsinki, Finland
Maciver, Isobel, Dallas, TX, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas System, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5981213		19991109
APPLICATION INFO.:	US 1995-450351		19950525 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1993-25363, filed on 2 Mar 1993 which is a continuation-in-part of Ser. No. WO 1992-US6869, filed on 14 Aug 1992, now patented, Pat. No. WO 819315, issued on 19 Sep 1994 which is a continuation-in-part of Ser. No. US 1991-745591, filed on 21 Aug 1991, now patented, Pat. No. US 5552146
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Shaver, Jennifer
LEGAL REPRESENTATIVE: Arnold, White & Durkee
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 13 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 3099
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present disclosure relates to Moraxella catarrhalis outer membrane vesicle (OMV) compositions, to selected antigenic proteins from the outer membranes of M. catarrhalis which have a variety of useful properties, and to monoclonal antibodies against these proteins. Particular "Outer Membrane Proteins" (OMPs) of the invention are characterized as having molecular weights of about 30 kD, 80 kD (also termed CopB protein) and between about 200 and 700 kD (HMWP antigen). Passive immunization with monoclonal antibodies directed against these proteins confers protection against homologous and heterologous Moraxella catarrhalis strains

in animal models, and active immunization with outer membrane vesicles also enhances pulmonary clearance of distinct M. catarrhalis strains. This demonstrates both the utility of antibodies in conferring passive immunity and the usefulness of OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens, or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and related embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.100
INCLS: 435/069.300; 435/252.200; 435/320.100; 536/023.100; 536/023.700; 536/024.320; 424/234.100; 424/251.100
NCL NCLM: 435/069.100
NCLS: 424/234.100; 424/251.100; 435/069.300; 435/252.200; 435/320.100; 536/023.100; 536/023.700; 536/024.320

L7 ANSWER 13 OF 22 USPATFULL
ACCESSION NUMBER: 1999:132546 USPATFULL
TITLE: Gene encoding outer membrane protein B1 of moraxella catarrhalis
INVENTOR(S): Murphy, Timothy F., Amherst, NY, United States
Sethi, Sanjay, Williamsville, NY, United States
PATENT ASSIGNEE(S): The Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5972657		19991026	
APPLICATION INFO.:	US 1997-949941		19971014	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Caputa, Anthony C.
ASSISTANT EXAMINER: Navarro, Mark
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews, Woods & Goodyear, LLP
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
LINE COUNT: 1308
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Nucleotide sequences, derived from Moraxella catarrhalis, which encode one or more epitopes of outer membrane protein B1 are disclosed. Recombinant B1 protein or B1 peptides may be produce by culturing in a medium a host cell genetically engineered to contain and express a nucleotide sequence according to the present invention, and recovering the recombinant protein or peptide from the cultured host cell or culture medium. The nucleotide sequence of the present invention can also be used in molecular diagnostic assays for detecting M. catarrhalis genetic material, and in antigenic compositions for producing B1-specific amino acids.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 435/071.100; 435/320.100; 435/325.000; 536/023.700
NCL NCLM: 435/069.300
NCLS: 435/071.100; 435/320.100; 435/325.000; 536/023.700

L7 ANSWER 14 OF 22 USPATFULL
ACCESSION NUMBER: 1999:106092 USPATFULL
TITLE: Vaccine for Moraxella catarrhalis
INVENTOR(S): Murphy, Timothy F., East Amherst, NY, United States
PATENT ASSIGNEE(S): The Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5948412		19990907
APPLICATION INFO.:	US 1997-810655		19970303 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1994-245758, filed on 17 May 1994, now patented, Pat. No. US 5607846
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Degen, Nancy
ASSISTANT EXAMINER: Schwartzman, Robert
LEGAL REPRESENTATIVE: Hodgson, Russ,Andrews Woods & Goodyear, LLP
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1552
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising outer membrane protein "E", and peptides and oligopeptides thereof, of Moraxella catarrhalis are described. Additionally, nucleotide sequences encoding the protein, peptide, or oligopeptide are disclosed, as well as recombinant vectors containing these sequences. Protein, peptide, or oligopeptide can be produced from host cell systems containing these recombinant vectors. Peptides and oligopeptides can also be chemically synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens in antigenic formulations for vaccine applications or for generating antisera of diagnostic or therapeutic use; and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertions into attenuated bacteria in constructing a recombinant bacterial vaccine and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding E as primers and/or probes in molecular diagnostic assays for the detection of M. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 530/350.000
NCL NCLM: 424/251.100
NCLS: 530/350.000

L7 ANSWER 15 OF 22 USPATFULL
ACCESSION NUMBER: 1998:112095 USPATFULL
TITLE: Nucleic acids encoding high molecular weight major outer membrane protein of moraxella
INVENTOR(S): Sasaki, Ken, 1131 Steeles Avenue, West, Apt. No. 512, Willowdale, Ontario, Canada M2R 3W8
Harkness, Robin E., 640 Sheppard Avenue, East,

Apt. #1706, Willowdale, Ontario, Canada M2K 1B8
Loosmore, Sheena M., 70 Crawford Rose Drive, Aurora, Ontario, Canada L4G 4R4
Klein, Michel H., 16 Munro Boulevard, Willowdale, Ontario, Canada M2P 1B9

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5808024		19980915
APPLICATION INFO.:	US 1995-478370		19950607 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1995-431718, filed on 1 May 1995
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Walsh, Stephen
ASSISTANT EXAMINER: Sorensen, Kenneth A.
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 18 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 1481
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated and purified outer membrane protein of a Moraxella strain, particularly M. catarrhalis, has a molecular mass of about 200 kDa. The about 200 kDa outer membrane protein as well as nucleic acid molecules encoding the same are useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the about 200 kDa outer membrane protein or produces a protein capable of inducing antibodies in a host specifically reactive with the about 200 kDa outer membrane protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 536/023.100
INCLS: 435/069.100; 435/069.700; 435/252.300; 435/320.100; 435/325.000; 530/300.000; 530/350.000; 536/023.500; 424/251.100
NCL NCLM: 536/023.100
NCLS: 424/251.100; 435/069.100; 435/069.700; 435/252.300; 435/320.100; 435/325.000; 530/300.000; 530/350.000; 536/023.500

L7 ANSWER 16 OF 22 USPATFULL
ACCESSION NUMBER: 1998:61433 USPATFULL
TITLE: Methods and compositions relating to useful antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Maciver, Isobel, Dallas, TX, United States
Helminen, Merja, Helsinki, Finland
PATENT ASSIGNEE(S): Board of Regents, The University of Texas System, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5759813		19980602
APPLICATION INFO.:	US 1994-193150		19940919 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1991-745591, filed on 15 Aug 1991, now patented, Pat. No. US 5552146

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hutzell, Paula K.
ASSISTANT EXAMINER: Navarro, Mark
LEGAL REPRESENTATIVE: Arnold, White & Durkee
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1732
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present disclosure relates to selected antigenic proteins obtained from the outer membranes of Moraxella catarrhalis, that are found to have a variety of useful properties. These proteins, termed OMPs ("Outer Membrane Proteins"), are characterized as having molecular weights of about 30 kD, 80 kD and between about 200 and 700 kD, respectively. Studies set forth herein demonstrated that monoclonal antibodies directed against these proteins confer a protective effect against infection by Moraxella catarrhalis organisms in animal models, demonstrating the potential usefulness of such antibodies in conferring passive immunity as well as the potential usefulness of these OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 435/069.100; 435/320.100; 435/325.000; 536/023.100; 536/023.700; 530/350.000; 424/184.100
NCL NCLM: 435/069.300
NCLS: 424/184.100; 435/069.100; 435/320.100; 435/325.000; 530/350.000; 536/023.100; 536/023.700

L7 ANSWER 17 OF 22 USPATFULL
ACCESSION NUMBER: 1998:24926 USPATFULL
TITLE: Vaccine for branhamelia catarrhalis
INVENTOR(S): Murphy, Timothy F., East Amherst, NY, United States
PATENT ASSIGNEE(S): Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5725862		19980310
APPLICATION INFO.:	US 1995-569959		19951208 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1994-306871, filed on 20 Sep 1994, now patented, Pat. No. US 5712118 which is a continuation-in-part of Ser. No. US 1993-129719, filed on 29 Sep 1993, now patented, Pat. No. US 5556755
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Minnifield, N. M.
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews Woods & Goodyear
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1

Searcher : Shears 308-4994

NUMBER OF DRAWINGS: 6 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1877
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising outer membrane protein "CD", and peptides and oligopeptides thereof, of Branhamella catarrhalis are described. Additionally, nucleotide sequences encoding the protein, peptide or oligopeptide are disclosed, as well as recombinant vectors containing these sequences. Protein, peptide or oligopeptide can be produced from host cell systems containing these recombinant vectors. Peptides and oligopeptides can also be chemically synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens for vaccine formulations, and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertion into attenuated bacteria in constructing a recombinant bacterial vaccine, and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding CD as primers and/or probes in molecular diagnostic assays for the detection of B. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 424/184.100; 424/234.100; 424/185.100; 530/350.000; 530/300.000; 514/002.000; 435/320.100; 435/240.200; 435/252.300; 435/254.110; 435/069.100; 435/070.100; 435/071.100
NCL NCLM: 424/251.100
NCLS: 424/184.100; 424/185.100; 424/234.100; 435/069.100; 435/070.100; 435/071.100; 435/252.300; 435/254.110; 435/320.100; 514/002.000; 530/300.000; 530/350.000

L7 ANSWER 18 OF 22 USPATFULL
ACCESSION NUMBER: 1998:9349 USPATFULL
TITLE: Vaccine for branhamella catarrhalis
INVENTOR(S): Murphy, Timothy F., East Amherst, NY, United States
PATENT ASSIGNEE(S): Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5712118		19980127
APPLICATION INFO.:	US 1994-306871		19940920 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-129719, filed on 29 Sep 1993, now patented, Pat. No. US 5556755, issued on 17 Sep 1996
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hutzell, Paula K.
ASSISTANT EXAMINER: Minnifield, N. M.
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews, Woods & Goodyear
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1838
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compositions comprising outer membrane protein "CD", and peptides and oligopeptides thereof, of Branhamella catarrhalis are described. Additionally, nucleotide sequences encoding the protein, peptide or oligopeptide are disclosed, as well as recombinant vectors containing these sequences. Protein, peptide or oligopeptide can be produced from host cell systems containing these recombinant vectors. Peptides and oligopeptides can also be chemically synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens for vaccine formulations, and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertion into attenuated bacteria in constructing a recombinant bacterial vaccine, and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding CD as primers and/or probes in molecular diagnostic assays for the detection of B. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 435/320.100; 435/252.100; 435/087.100; 435/091.100; 435/091.400T; 435/235.100; 435/172.300; 536/022.100; 536/023.100; 530/350.000
NCL NCLM: 435/069.300
NCLS: 435/091.100; 435/091.400; 435/235.100; 435/252.100; 435/320.100; 530/350.000; 536/022.100; 536/023.100

L7 ANSWER 19 OF 22 USPATFULL
ACCESSION NUMBER: 97:18072 USPATFULL
TITLE: Vaccine for moraxella catarrhalis
INVENTOR(S): Murphy, Timothy F., East Amherst, NY, United States
Bhushan, Reva, North Potomac, MD, United States
PATENT ASSIGNEE(S): Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5607846		19970304	
APPLICATION INFO.:	US 1994-245758		19940517	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Guzo, David
ASSISTANT EXAMINER: Schwartzman, Robert
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews, Woods & Goodyear
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1262
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising outer membrane protein "E", and peptides and oligopeptides thereof, of Moraxella catarrhalis are described. Additionally, nucleotide sequences encoding the protein, peptide, or oligopeptide are disclosed, as well as recombinant vectors containing these sequences. Protein, peptide, or oligopeptide can be produced from host cell systems containing these recombinant vectors. Peptides and oligopeptides can also be chemically

synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens for vaccine formulations, and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertions into attenuated bacteria in constructing a recombinant bacterial vaccine and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding E as primers and/or probes in molecular diagnostic assays for the detection of M. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 435/252.300; 435/252.800; 435/320.100; 536/023.100
NCL NCLM: 435/069.300
NCLS: 435/252.300; 435/252.800; 435/320.100; 536/023.100

L7 ANSWER 20 OF 22 USPATFULL
ACCESSION NUMBER: 97:9925 USPATFULL
TITLE: Methods and compositions relating to useful antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Helminen, Merja, Dallas, TX, United States
Maciver, Isobel, Dallas, TX, United States
PATENT ASSIGNEE(S): American Cyanamid Company, Wayne, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5599693		19970204
APPLICATION INFO.:	US 1995-450002		19950525 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1991-745591, filed on 15 Aug 1991
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Murthy, Prasad
LEGAL REPRESENTATIVE: Arnold White & Durkee
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1620
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present disclosure relates to selected antigenic proteins obtained from the outer membranes of Moraxella catarrhalis, that have been found by the inventors to have a variety of useful properties. These proteins, termed OMPs ("Outer Membrane Proteins"), are characterized as having molecular weights of 30, 80 and 100 kD, respectively. Studies set forth herein demonstrate that monoclonal antibodies directed against these proteins confer a protective effect against infection by Moraxella catarrhalis organisms in animal models, demonstrating the potential usefulness of such antibodies in conferring passive immunity as well as the potential usefulness of these OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens, or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 424/184.100; 424/251.100; 435/007.200; 435/007.320; 435/071.100; 435/071.200; 435/243.000; 435/252.100; 436/543.000; 530/388.200; 530/388.400; 530/412.000; 530/413.000; 935/106.000; 935/108.000; 935/109.000; 935/110.000
NCL NCLM: 435/069.300
NCLS: 424/184.100; 424/251.100; 435/007.200; 435/007.320; 435/071.100; 435/071.200; 435/243.000; 435/252.100; 436/543.000; 530/388.200; 530/388.400; 530/412.000; 530/413.000

L7 ANSWER 21 OF 22 USPATFULL
ACCESSION NUMBER: 96:85036 USPATFULL
TITLE: Method for detecting Branhamella catarrhalis
INVENTOR(S): Murphy, Timothy F., East Amherst, NY, United States
PATENT ASSIGNEE(S): The Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5556755		19960917
APPLICATION INFO.:	US 1993-129719		19930929 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Zitomer, Stephanie W.
ASSISTANT EXAMINER: Sisson, Bradley L.
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews, Woods & Goodyear
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1223
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising outer membrane protein "CD", and peptides thereof, of Branhamella catarrhalis are described. Additionally, nucleotide sequences encoding the protein or peptide are disclosed, as well as recombinant vectors containing these sequences. Protein or peptide can be produced from host cell systems containing these recombinant vectors. Peptides can also be chemically synthesized. Disclosed are the uses of the protein and peptides as antigens for vaccine formulations, and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding CD as primers and/or probes in molecular diagnostic assays for the detection of B. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/006.000
INCLS: 435/091.100; 435/091.200; 435/871.000; 536/023.700; 536/024.320; 536/024.330; 536/025.300; 935/077.000; 935/078.000
NCL NCLM: 435/006.000
NCLS: 435/091.100; 435/091.200; 435/871.000; 536/023.700;

536/024.320; 536/024.330; 536/025.300

L7 ANSWER 22 OF 22 USPATFULL

ACCESSION NUMBER:	96:80017 USPATFULL
TITLE:	Methods and compositions relating to useful antigens of Moraxella catarrhalis
INVENTOR(S):	Hansen, Eric J., Plano, TX, United States Helminen, Merja, Dallas, TX, United States Maciver, Isobel, Dallas, TX, United States
PATENT ASSIGNEE(S):	Board of Regents, The University of Texas System, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5552146		19960903	
APPLICATION INFO.:	US 1991-745591		19910815	(7)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Sidberry, Hazel F.
LEGAL REPRESENTATIVE:	Arnold, White & Durkee
NUMBER OF CLAIMS:	7
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT:	1597

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present disclosure relates to selected antigenic proteins obtained from the outer membranes of Moraxella catarrhalis, that have been found by the inventors to have a variety of useful properties. These proteins, termed OMPs ("Outer Membrane Proteins"), are characterized as having molecular weights of 30, 80 and 100 kD, respectively. Studies set forth herein demonstrate that monoclonal antibodies directed against these proteins confer a protective effect against infection by Moraxella catarrhalis organisms in animal models, demonstrating the potential usefulness of such antibodies in conferring passive immunity as well as the potential usefulness of these OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens, or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

INCL	INCLM:	424/251.100
	INCLS:	424/184.100; 530/350.000
NCL	NCLM:	424/251.100
	NCLS:	424/184.100; 530/350.000

(FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, USPATFULL' ENTERED AT 11:08:53 ON 06 SEP 2002)
L11 0 S ("DE BASSOLS" ? OR "VINALS" ?)/AU AND L2 - Author
L12 4 S ("BASSOLS" ? OR "VINALS" ?)/AU AND L1
L13 2 DUP REM L12 (2 DUPLICATES REMOVED)

L13 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 1
ACCESSION NUMBER: 1999:795840 HCAPLUS
DOCUMENT NUMBER: 132:45830
TITLE: BASB031 polynucleotides and polypeptides from **Moraxella catarrhalis** and their use for diagnosis and treatment of infection
INVENTOR(S): Ruelle, Jean-louis; Tommassen, Johannes Petrus Maria; **Vinals-Bassols, Carlota**
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S. A., Belg.
SOURCE: PCT Int. Appl., 113 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9964448	A2	19991216	WO 1999-EP3823	19990531
WO 9964448	A3	20000203		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9945049	A1	19991230	AU 1999-45049	19990531
EP 1082436	A2	20010314	EP 1999-927845	19990531
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: GB 1998-12163 A 19980605
WO 1999-EP3823 W 19990531

AB The invention provides BASB031 polypeptides and polynucleotides encoding BASB031 polypeptides and methods for producing such polypeptides by recombinant techniques. The BASB031 genomic DNA was prepd. from **Moraxella catarrhalis** (also named Branhelmella catarrhalis) and shown to encode a polypeptide 473 amino acids in length with homol. to Pseudomonas aeruginosa PilQ fimbrial assembly protein. BASB031 sequence variability was detected between **M. catarrhalis** strains ATCC 43617, Mc2911 and Mc2969. Also provided are diagnostic, prophylactic and therapeutic uses in **M. catarrhalis** infections causing otitis media, pneumonia, and sinusitis.

L13 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS DUPLICATE 2
ACCESSION NUMBER: 1999:784268 HCAPLUS
DOCUMENT NUMBER: 132:31787

TITLE: Sequences of a novel **Moraxella catarrhalis** protein, designated BASB027, and uses thereof in diagnostic assays and in vaccines

INVENTOR(S): **Vinals-Bassols, Carlota**
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.

SOURCE: PCT Int. Appl., 109 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9963093	A2	19991209	WO 1999-EP3822	19990531
WO 9963093	A3	20000302		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9943732	A1	19991220	AU 1999-43732	19990531
AU 738896	B2	20010927		
BR 9911609	A	20010206	BR 1999-11609	19990531
EP 1082435	A2	20010314	EP 1999-926507	19990531
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI				
JP 2002517199	T2	20020618	JP 2000-552287	19990531
NO 2000006112	A	20010202	NO 2000-6112	20001201

PRIORITY APPLN. INFO.: GB 1998-11945 A 19980603
GB 1999-5304 A 19990308
WO 1999-EP3822 W 19990531

AB This invention provides protein and DNA sequences for a novel **Moraxella catarrhalis** (strain ATCC 43617) protein, designated BASB027, which shows 32% amino acid sequence identity to the OMP85 outer membrane protein of Neisseria meningitidis. The invention also relates to the use of BASB027 protein, gene, or fragments thereof, in vaccines against Moraxella infection and in diagnostic assays.

FILE 'HOME' ENTERED AT 11:23:09 ON 06 SEP 2002